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RALLYING

Audi crowned, Peugeot soars

FORMULA 1

McLaren story

ENDURANCE

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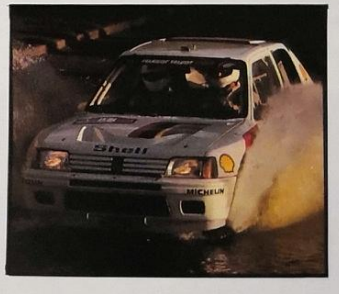

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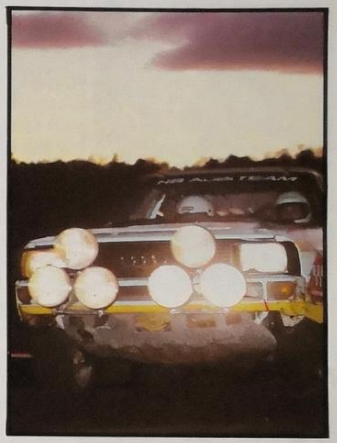
Results of the closing round at the Ivory Coast plus the RAC. Audi and Blomqvist — the 1984 winning combination.



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Your views and comments — readers write in!

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TOPICS

Johnny Dumfries, the brilliant British Formula 3 winner drove the McLaren MP4-2 on November 7th at Silverstone. He put in a best lap time of 1m 25.9s... only three seconds off the track record established by none other than Niki Lauda.

Lotus have renewed their contract with Renault to continue supplying them with their turbo F1 engines for a further three years. Assembly and servicing will again be carried out by Mecachrome in Bourges (France).

Satoru Nakajima, the winner of the last Japanese F2 round at Suzuka, on November 3rd, has been crowned the 1984 Japanese F2 champion ahead of Stefan Johansson.

Mario Andretti is the new CART champion. He finished 2nd behind Sneva on November 11th at Las Vegas, at the wheel of a Lola T 800 DFX. Sneva is the championship runner-up, followed by Rahal.

Gerrit Van Kouwen (Lola T.64 E Minister) won the F. Ford Festival which took place at Brands Hatch on November 11th. He put in the fastest lap time and was followed home by Uwe Schafer (Van Diemen).

Rumours of plans for a street circuit in Birmingham have reached us. We've been told that "Spaghetti Junction" will be included as part of the track...

Gerhard Berger, the young Austrian 1984 F3 champion who made his F1 debut in an ATS, is reported to be fit and well after his serious road accident a few weeks ago. He was discharged from Innsbruck Hospital recently and is hoping to get back behind the wheel soon.

DONINGTON FOR SALE

Donington Park Racing Ltd have decided to sell the Leicestershire circuit in order that motor racing competitions continue to be held there. The shares of the company will be up for sale shortly.

MERCEDES GROUP C — CONFIRMATION

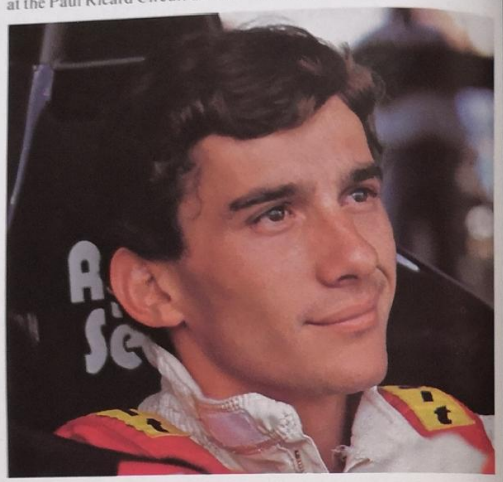
The semi-official Gebhardt team will almost certainly be taking part in the 1985 WEC.
Mercedes will thus be represented in Group C Junior with a 2.3-litre, 16 valve 190. Gebhardt also have plans to enter a BMW 635 CSi

700 BHP FOR THE GROUP C FORD

The new Group C Ford will inherit the 2.1-litre turbo engine prepared by Zakspeed in the States. Its maiden-race should be on February 24th at Miami. The new Group C power block develops between 650 and 700 bhp.

SENNA ABSENT FOR TESTING

The Brazilian driver, Ayrton Senna missed testing with Lotus at the Paul Ricard Circuit due to a virus affecting his nervous system. He has returned to Brazil for treatment.



F3000 - WHOSE TYRES?

The new F3000 championship has caused much interest in the world of constructors. The same cannot be said of tyre manufacturers. Neither Bridgestone, Dunlop, Goodyear or Pirelli are willing to supply the necessary tyres for the moment. Bridgestone, however, are working on plans to supply certain teams.

1985 WEC - TEN ROUNDS

Ten rounds (of which two will count only for the drivers' championship) have been planned for the 1985 World Endurance Championship.
The calendar is a follows:
April 14th: Mugello (I)
April 25th: Monza* (I)
May 12th: Silverstone (GB)
June 15th - 16th: Le Mans (F)
July 14th: Hockenheim (D)
August 11th: Mosport (CDN)
September 1st: Spa-Francorchamps (B)
September 15th: Brands Hatch* (GB)
October 6th: Fuji (J)
November 10th: Sandown Park (GB)
* Denotes rounds counting for the drivers' championship only.

FACE-LIFT FOR SPA

With a view to the forthcoming Belgian Grand Prix to be held at the Spa-Francorchamps circuit in 1985, the circuit management have recently been carrying out a number of improvements. Amongst their projects are the resurfacing of the track, a new and larger control tower, better geared to today's requirements, together with the building of new stands to provide approximately 2,000 extra covered places for spectators. The Belgians will now be able to hold their round of the Grand Prix circus at either Zolder or Spa.

ENDURANCE : PORSCHE AND BELLOF 1984 CHAMPIONS

Stefan Bellof and Derek Bell won the final round of the WEC at the difficult Sandown Park Circuit (Australia). Stefan Bellof's win ahead of the other Rothmans-Porsche entry, made up of Jacky Ickx and Jochen Mass, clinched him the 1984 world crown.
The up and coming young German driver has won six of the eleven rounds this season and succeeds the 1982 and 1983 champion, Jacky Ickx, thereby giving Porsche its third consecutive title.

CANADIAN GRAND PRIX IN DIFFICULTY

Officials of the Canadian Motor Sport body (FSCA) announced recently in Toronto, that the Labatt brewery would not be backing the Canadian Grand Prix due to be held at Montreal on June 16th 1985.
The FSCA are busy looking for another sponsor for the event, conentrating their efforts on car manufacturers. However, at the time of going to press, a replacement had not been found.

MONEY! MONEY!

Sponsor hunters are still on the look-out for generous backers to finance their respective teams. The latest developments are that Nordica have finally decided to stop pumping their money into F1 and the Arrows team and Williams have struck lucky with "Canon". Palmer was the man hoping that this union would take place since he is backed by "Canon" in the WEC. Luck does not always smile on those who expect it to, and Nigel Mansell has been named. Better luck next time Jonathan!
The Italian coffee company, "Segafredo", has announced plans to forsake Toleman for McLaren — money calls... The future Minardi team have fewer worries now that they have signed a contract with "Gazzoni", a manufacturing concern for pharmaceutical products, to relieve them of some of their financial problems.

NEW ALFA ROMEO FOR BRAZILIAN GP

Ricardo Patrese has revealed that there will be a new Alfa Romeo at the 1985 edition of the Brazilian Grand Prix. The new car will feature an eight-cylinder engine until the mid-season and the Italian outfit will then equip another different power block for the remaining part of the season, developed by former Toleman engineer, John Gentry.

RALLY RACING ELECT PROST

Alain Prost, the 1984 F1 vice-champion, has been voted the "Best F1 Driver" for 1984 by an international panel made up of specialised journalists. This is the first time that the German magazine, "Rally Racing", has bestowed the title on a driver who is not the world champion.

SPORT AND POLITICS

German technology proved its supremacy in all top level motor racing disciplines during the 1984 season. Audi took the World Rally Championship for makes, even before the final round, ahead of Lancia, as a result of some exceptional performances achieved by Stig Blomqvist. Porsche wielded its power on the circuits by winning both the F1 Grand Prix and World Endurance Championships. Never before has a F1 engine performed as well as the TAG Porsche this year, chalking up twelve victories for the McLaren team out of a possible sixteen! German driver, Stefan Bellof gave Porsche-Rothmans their third consecutive world endurance title and he was first over the finish line six times. He also scooped the German national championship to pinch another crown. German drivers, German engineering and German organisation. For the time being the other teams are having a hard time to produce an equally uniform product.
FISA president, Jean Marie Balestre, has found an ingenious method of underlining his re-election — obtained by means of a clapometer (!). How? Well, to start with by taking issue with his self-proclaimed rebels - the Automobile de Monaco to be exact.
At the time of going to press, there is still an embargo concerning the Monte Carlo Rally (the first edition was held in 1911) and the Monaco Grand Prix (the precursor of street circuits, the first taking place back in 1929). An incredible fuss has been kicked up voluntarily in order to settle a couple of personal vendettas, which at the end of the day have more to do with politics than the sport itself. What about the spectators in all this? Were the drivers ever once consulted? How could international racing survive without them?
The German monopoly concerns sport. The president should follow the example set so that everybody is talking the same language.

GPI

CAPONE EUROPEAN CHAMPION

As forecast in the previous issue of GPI, the Italian rallyman, Carlo Capone, clinched the 1984 European rallying title ahead of Henri Toivonen, who was unable to defend his chances due to a back injury which had been causing him pain for several weeks.

FORD RS 200 THE ANTI - 205 TURBO 16

Ford presented their new rally Group B model at the Turin Motor Show. The standard road-type RS 200 is tuned to develop 230 bhp with boost pressure set at 0.8 bars. The prototype rally version produces up to between 330 and 380 bhp depending on the turbo pressure setting. Maximum horsepower is obtained at from 7000 to 7500 rpm and John Wheeler advises a rev redline of 8500 rpm. Brian Hart and his team have worked hard and well !

The car's aerodynamics, weight distribution etc have been designed to fit all the specific requirements of world rally championship rounds.

The RS 200 is a smart two-seater coupé and looks extremely impressive. It bears little resemblance to other models in the constructor's range. The Ghia-designed bodywork was slightly modified following tests through the Ford wind tunnel and the estimated drag coefficient is given as 0.40. It features a four-cylinder, 16 valve, twin overhead camshaft BDT engine, derived from the powerfully-built BDA. Brian Hart originally planned to equip this block to the still-born 1700 T project. The engine size has been increased to 1800cc for the RS 200, putting it into a higher category.

The new Ford Group B will be entered in the 2501 to 3000cc class (coefficient 1.4) and minimum weight for the competitions version is given as 960 kilos.

The new four-wheel-drive features Ferguson transmission with a torque split of 37% (front) and 64% (rear) and can be switched to two-wheel transmission. The centre differential can be locked by the driver by means of a lever.

To begin with, the estimated kerb weight is 1,050 kilos (2,315 lbs) which includes the two full 74 and 42 litre (16.2 and 9.2 gallon) fuel tanks

PARIS-DAKAR THE FAVOURITES

The 7th edition of the Paris-Dakar Rally will be leaving Paris January 1st. Quite an impressive list of prestigious drivers has already been established.

At least six official teams will be in contention for the outright victory. Audi with Darniche, Mazda with Jabouille and Schlesser, Citroën with Thérier, Rothmans-Porsche with Jacky Ickx, Jochen Mass and René Metge, not forgetting Mitsubishi, Opel-Bastos and Mercedes-Koro. It's going to be a tough marathon over the 7,500 miles of African terrain and a tough guessing game with so many talented favourites to choose from.

REAR CENTRAL AUDI ENGINE

Rumours that the Ingolstadt constructor would be hibernating during the 1985 season have proved to be false. Audi are in fact preparing a new version of the Quattro.

The new Group B will be substituting both the A2 Coupé and the Quattro Sport Coupé in the not too distant future and will feature an engine placed centrally to the rear.

RENAULT MAXI 5 TURBO - DEBUTS

Official Renault driver, Jean Ragnotti, was not available for the new Renault Group B's maiden-drive at the Rally du Var, the closing round of the 1984 French Rallying championship. Alain Serpaggi, the test driver and technician drove the car himself and it was entered as a "zero car". Although no official reference times were released, the R5's replacement quickly proved it was as good as the better cars (BMW M1, Lancia Rally 037, Audi Quattro and R5 Turbo).

GPI COMIC CAR

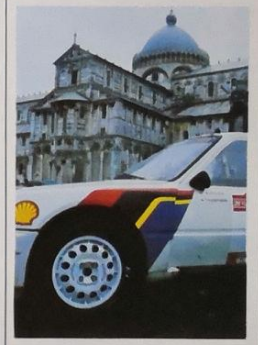
Jean Graton, the well-known Belgian cartoonist who created the adventures of Michel Vaillant and Steve Warson, has a new album coming out shortly. The scene of the action is set at the Portuguese Rally.

The hero of the comic strip drives a "Vaillante Commando" (straight from the cartoonist's imagination to paper). One of our photographers, André Marzoli, took the photographs that inspired Jean Graton, and the car sports Grand Prix International's colours! An English edition is planned for the not too distant future.

PEUGEOT 85 - THREE 205 TURBO 16s

Jean Todt, the Peugeot Talbot Sport competitions director, will be revealing the 1985 official rallying team just after we have gone to press for this issue of GPI.

However, we can safely announce that the following drivers will be included on the team: Ari Vatanen, whose contract has been renewed for another year, Timo Salonnen (ex-Nissan) and Bruno Saby — whose schedule will be worked chiefly around the European and French rounds.



A NEW GROUP B LANCIA

The new Group B Lancia is to be presented on December 13th at the Turin Motor Show. A name has finally been decided - neither "038" or "Delta Rally" as provisionally planned but "Lancia Delta S4". The "S" comes from "sovralimentazione" (supercharged) and "4" to indicate that it is a four-wheel-drive. The development stages were undertaken by Abarth as dictated by tradition.

Without words...

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Other features that keep this diary out in front are the detailed diagrams of all the major Grand Prix circuits, together with addresses and phone numbers of the Formula 1 teams – in fact, all the information the motor racing enthusiast needs at his fingertips. And to complement the diary, a superb, 13-leaf, large-format wall calendar measuring 590 x 420mm (23" x 16½") and featuring 14 sensational full-colour racing shots.

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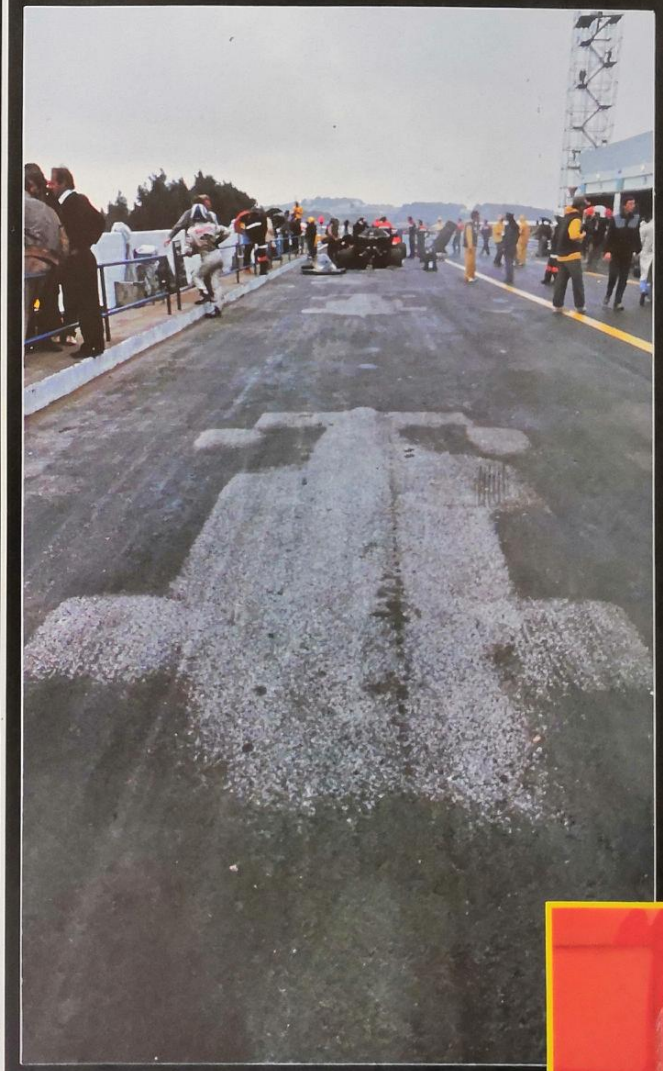
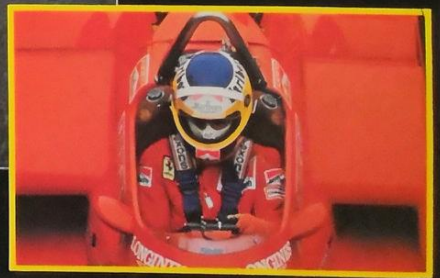
THE 1984 CONSTRUCTOR'S PODIUM

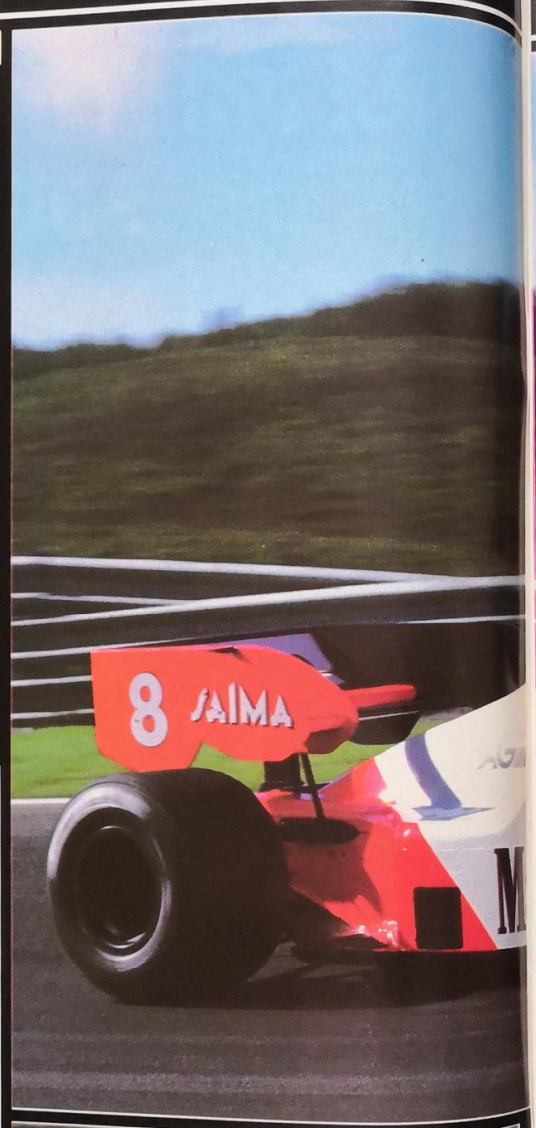


The McLaren team proved that they were the best of the 1984 season. Nothing was left to chance — they had top quality material, the infrastructure was meticulously organised and the season was approached in a professional and serious manner. No-one was going to thwart their efforts in their quest for the title ! Ferrari were the runners up, but they didn't manage to score even half the points obtained by the winning British outfit. Lotus, another British team, using Renault engines, finished third. We have included a technical guide to the first three teams' cars as a souvenir of this year's season.



McLAREN MP4

Team created in 1964.
First Grand Prix: Monaco in 1966.
1984 record: 1st in constructors' championship with 143.5 points.
Address: Boundary Rd, Woking, Surrey GU21 5BX. (GB).



***Constructor:** McLaren.*
***Type:** MP4-2.*
***Director:** Ron Dennis.*
***Engineers:** John Barnard (chassis), Hans Mezger (engine).*
***Engine:** TAG/Porsche PO1, V6 inclined at 80°; bore and stroke: 82 X 47.3 mm, engine size: 1498 cc. Twin KKK turbos.*
***Gearbox:** 5-speed Hewland/McLaren.*
***Chassis:** Carbon and honeycomb monocoque.*
***Suspension:** Front - double wishbone, pushrod and mini rocker, rear - lower wishbone, upper rocker.*
***Tyres:** Michelin.*
***Dimensions:** Wheelbase: 276.8 cm; front track : 181.6 cm; rear track: 167.6 cm.*
***Weight:** 540 kilos.*
***Drivers:** Alain Prost (F), Niki Lauda (A).*
***Sponsors:** Marlboro, SAIMA, Unipart, Boss.*

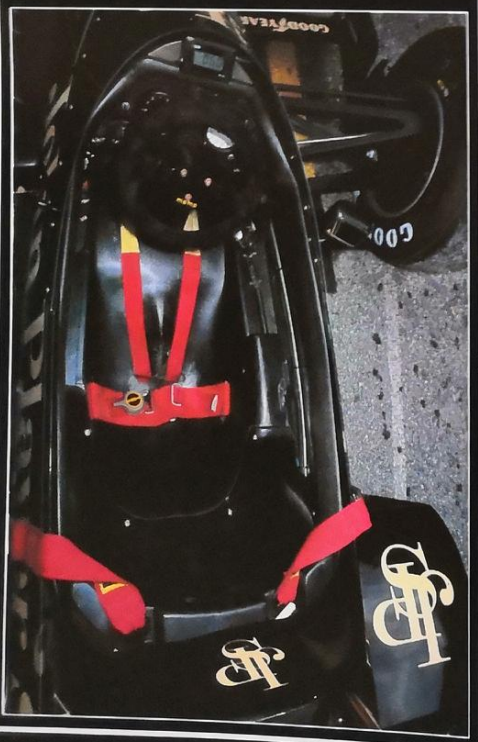
FERRARI 126 C4

Team created in 1929.
First Grand Prix: Monaco in 1950.
1984 record: 2nd in constructors' championship with 57.5 points.
Address: Via Abetone Inferiore 2, 41053 Marenello, Modena, Italy.

Constructor: Ferrari
Type: 126C4/M2.
Director: Enzo Ferrari.
Engineers: Mauro Forghieri (engine), Harvey Postlethwaite (chassis).
Engine: 126C, V6 inclined at 120°; bore and stroke: 81 X 48.4 mm; engine size: 1496 cc; twin KKK turbos.
Gearbox: 5-speed transverse Ferrari.
Chassis: Carbon fibre and kevlar monocoque.
Suspension: front - double wishbone and pull rod; rear - double whisbone, pull rod and rocker.
Tyres: Good Year.
Dimensions: Wheelbase: 260 cm; front track: 178.6 cm; rear track: 166.5 cm; length: 411.5 cm.
Weight: 540 kilos.
Drivers: Michele Alboreto (I), René Arnoux (F).
Sponsors: Fiat, Agip, Marlboro.

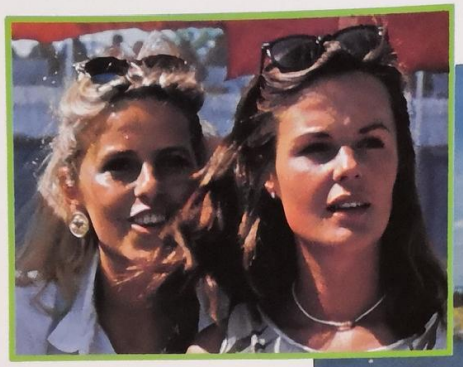
LOTUS 95T

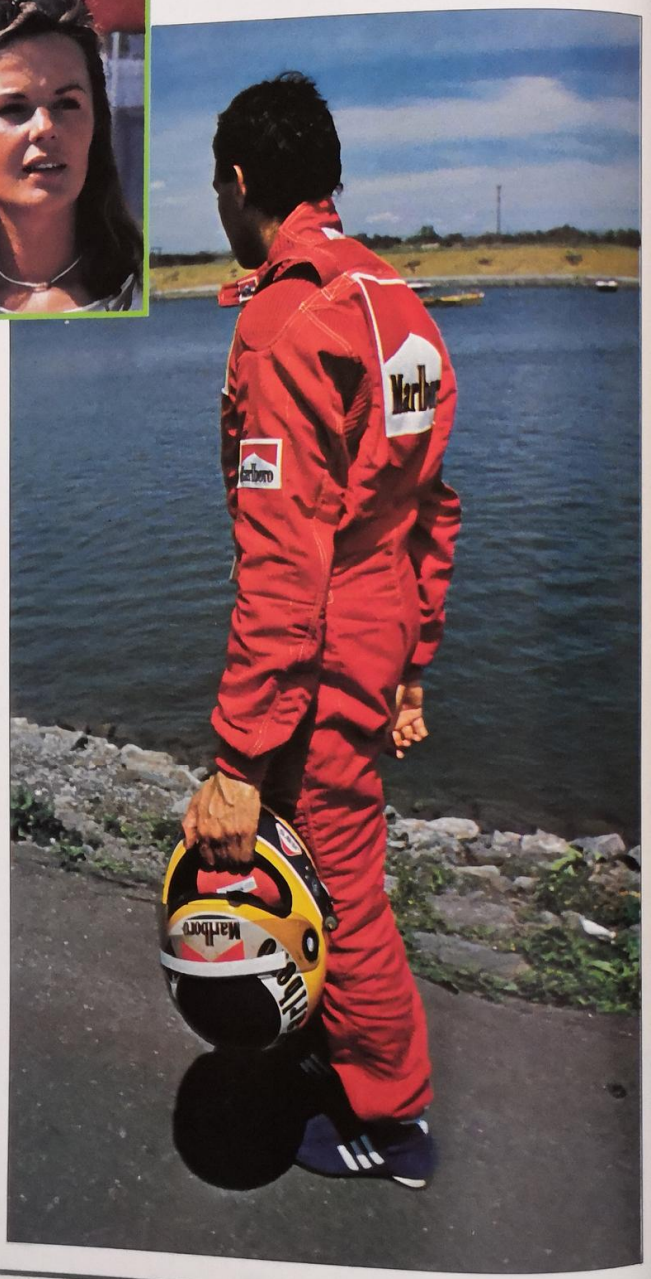
Team created in 1957 (single seaters).
First Grand Prix: Monaco in 1958.
1984 record: 3rd in constructors' championship with 47 points.
Address: Wymondham, Norfolk NR18 9RS. (GB)



Constructor: Lotus
Type: 95T.
Director: Peter Warr.
Engineer: Gérard Ducarouge.
Engine: Renault EF4, V6 inclined at 90°; bore and stroke 86 X 42.8 mm; engine size: 1492 cc; twin KKK turbos.
Gearbox: 5-speed Hewland/Lotus.
Chassis: carbon - kevlar and honeycomb Nomex monocoque.
Suspension: Front - double wisbone and pull rod; rear - lower wishbone, upper rocker.
Tyres: Good Year.
Dimensions: Wheelbase: 268 cm; front track: 181.6 cm; rear track: 162 cm; length: 422 cm.
Weight: 540 kilos.
Drivers: Elio de Angelis (I), Nigel Mansell (GB).
Sponsors: JPS, Elf.

THE 1984 DRIVER'S PODIUM





Niki Lauda and Alain Prost notched up a total of twelve Grand Prix victories between them out of a total of sixteen rounds during the 1984 season. The Austrian driver (five wins) and the Frenchman (seven wins) had an intense and gripping fight to the title which was decided at the closing round in favour of Lauda by half a point, to give the McLaren team drivers a 1-2 placing in their championship. Elio de Angelis finished the season in third position, although he didn't manage a single win and Michele Alboreto (the San Marino winner) and Nelson Piquet (the Canadian and Detroit GP winner) were placed fourth and fifth respectively.

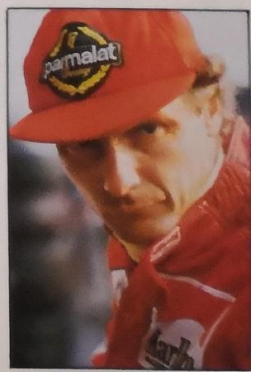
NIKI LAUDA

1

1984 RECORD

Team: *McLaren International.*
Points: *72.*
Brazil: *Retired (electrical failure).*
South Africa: *1st.*
Belgium: *Retired (engine).*
San Marino: *Retired (engine).*
France: *1st.*
Monaco: *Retired (spin).*
Canada: *2nd.*
Detroit: *Retired (engine).*
Dallas: *Retired (hit wall).*
Great Britain: *1st.*
Germany: *2nd.*
Austria: *1st.*
Holland: *2nd.*
Italy: *1st.*
Europe: *4th.*
Portugal: *2nd.*

Born : *Vienna (Austria), February 22nd, 1949.*
Debut in F1: *1971 Austrian GP (March).*
First GP victory: *1974 Spanish GP (Ferrari).*
GP races: *157.*
Wins: *24.*
2nd placings: *21.*
3rd placings: *8.*
Titles:
1972 F2 Champion
F1 Triple World Champion in 1975, 1977 and 1984.



ALAIN PROST

Born : St-Chamond (France), February 24th 1955.
Debut in F1: 1980 Argentinian GP (McLaren).
First GP victory: 1981 French GP (Renault).
GP races: 73.
Wins: 16.
2nd placings: 7.
3rd placings: 3.
Title:
1979 F3 European champion

2

1984 RECORD

Team : McLaren International.
Points: 71.5.
Brazil: 1st.
South Africa: 2nd.
Belgium: Retired (fuel supply).
San Marino: 1st.
France: 7th.
Monaco: 1st.
Canada: 3rd.
Detroit: 5th.
Dallas: Retired (hit wall).
Great Britain: (gearbox).
Germany: 1st and pole position.
Austria: Retired (off track).
Holland: 1st.
Italy: Retired (engine).
Europe: 1st.
Portugal: 1st.

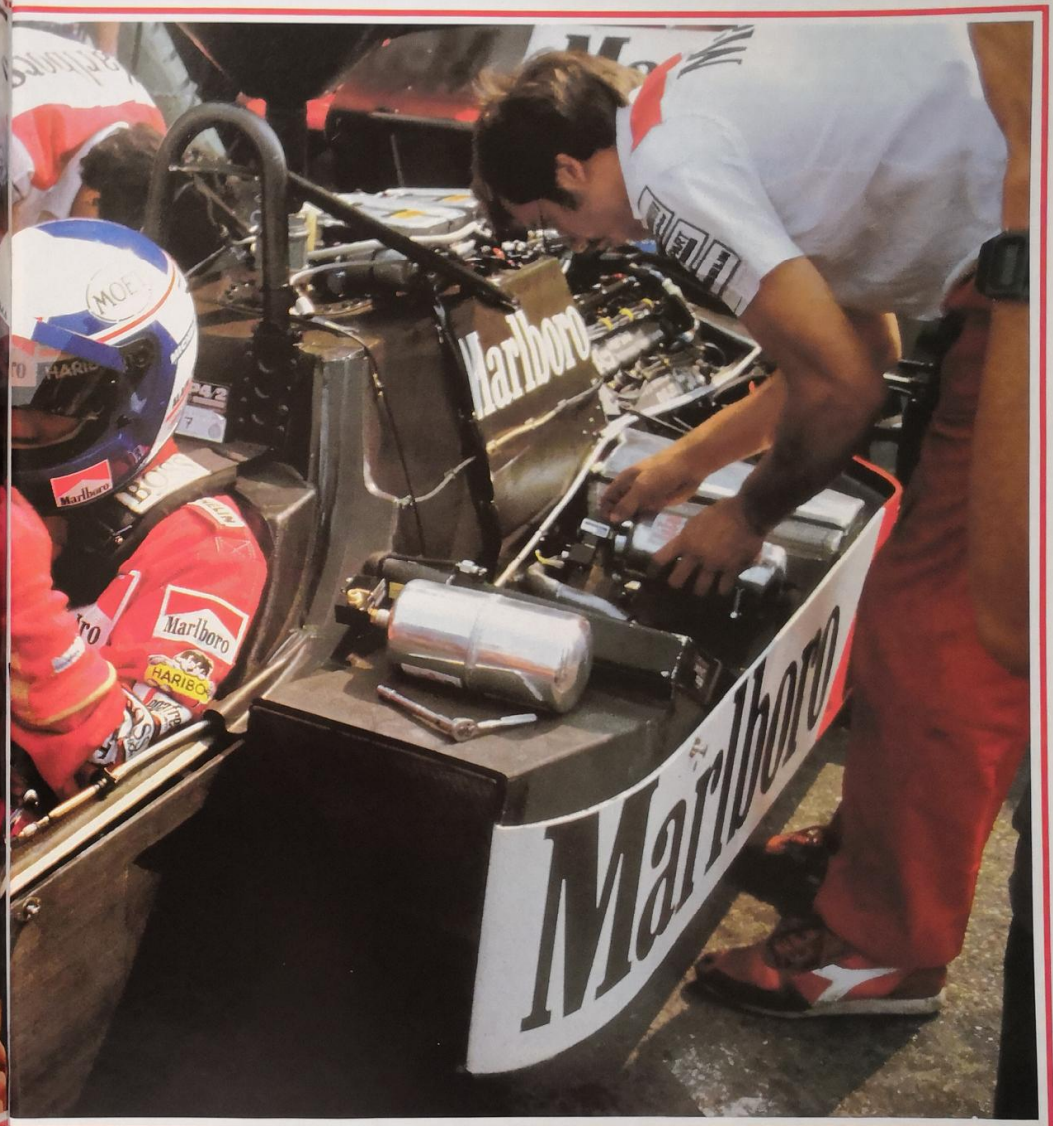
ELIO de ANGELIS

3

Born : Rome (Italy), March 26th, 1958.
Debut F1: 1979 Argentinian GP (Shadow).
First GP victory: 1982 Austrian GP (Lotus).
GP races: 88.
Wins: 1.
2nd placings: 2.
3rd placings: 3.
Title:
1977 Italian F3 Champion.

1984 RECORD

Team: Lotus.
Points: 34.
Brazil: 3rd.
South Africa: 7th.
Belgium: 5th.
San Marino: 3rd.
France: 5th.
Monaco: 6th.
Canada: 4th.
Detroit: 3rd.
Dallas: 3rd.
Great Britain: 4th.
Germany: Retired (engine).
Austria: Retired (engine).
Holland: 4th.
Italy: Retired (engine and gearbox).
Europe: Retired (turbo).
Portugal: 5th.



THE TWO MEN BEHIND McLAREN'S SUCCESS

LAUDA AND PROST, YOU SAY. WRONG ! HOW WOULD THE TWO MCLAREN DRIVERS HAVE BEEN ABLE TO TAKE COMMAND IN SUCH A RELENTLESS MANNER THIS SEASON WITHOUT THE RATHER SPECIAL TALENTS OF JOHN BARNARD AND RON DENNIS ? SO LET'S TALK ABOUT THEM FOR A CHANGE.

The McLaren team made it very clear this season that they were the best team - twelve wins out of sixteen GPs, four 1-2s, the first two places in the drivers' world championship and the constructors' title aquired relatively early on in the season. There was no room for doubt. Sorry. Yes there was. Which of the two McLaren drivers would be crowned? The guessing continued until the 984th lap out of the 1,002 laps covered during the sixteen GPs. The red and white liveried cars scored five victories out of the first nine races, and during the second half of the season, no less than all seven remaining GPs were won by them. Belgium was one country where they were halted in their march, with electrical problems. North America didn't prove particularly fruitful either. The Lauda/Prost fight-for-the-crown outshone the rest of the field. Thanks to whom and to what, we ask? Best engine, best tyres, best drivers, best chassis, best organisation, best aerodynamics... that's the 'official' explanation given by Ron Dennis and Hans Mezger, the designer of the TAG/Porsche engine. In fact it isn't quite as simple as that — it is impossible to pinpoint the most important ingredient to their success. Renault, Brabham, Toleman and Ligier were all racing on similar tyres, so that leaves the car, the organisation and the engine.

UNFLAPPABLE DENNIS

At the end of 1963, the New Zealand racing driver, Bruce McLaren, founded his own team. From the CANAM Challenge, via the Indy Championship McLaren were into F1 by 1966. Slowly but surely, they were earning a name for themselves. In 1969, Hulme, Dan Gurney and Bruce McLaren himself, earned the first important placing in a world championship — runners up for the constructors' crown. However, McLaren died a tragic death on the Goodwood circuit on June 2nd, 1970, during private testing. The team took the decision to continue with their work and appointed Teddy Mayer (a friend of Bruce's) as their new boss, together with Tyler Alexander. Life went on as usual, the team proved time and time again that it was a worthy opponent, and then in 1974, Fittipaldi obtained their first world title. In the following years, McLaren had established themselves as a top F1 team. But 1978 marked the beginning of a downhill slide. Teddy Mayer wasn't able to keep things in order and Gordon Coppuck, the engineer at the time (now with the Spirit team) was having problems in getting a well performing racing car off the drawing board and onto the circuits. Marlboro, the sponsor, was beginning to lose patience. In spite of names like Watson/Tambay, and then Watson/Prost, things did not improve.

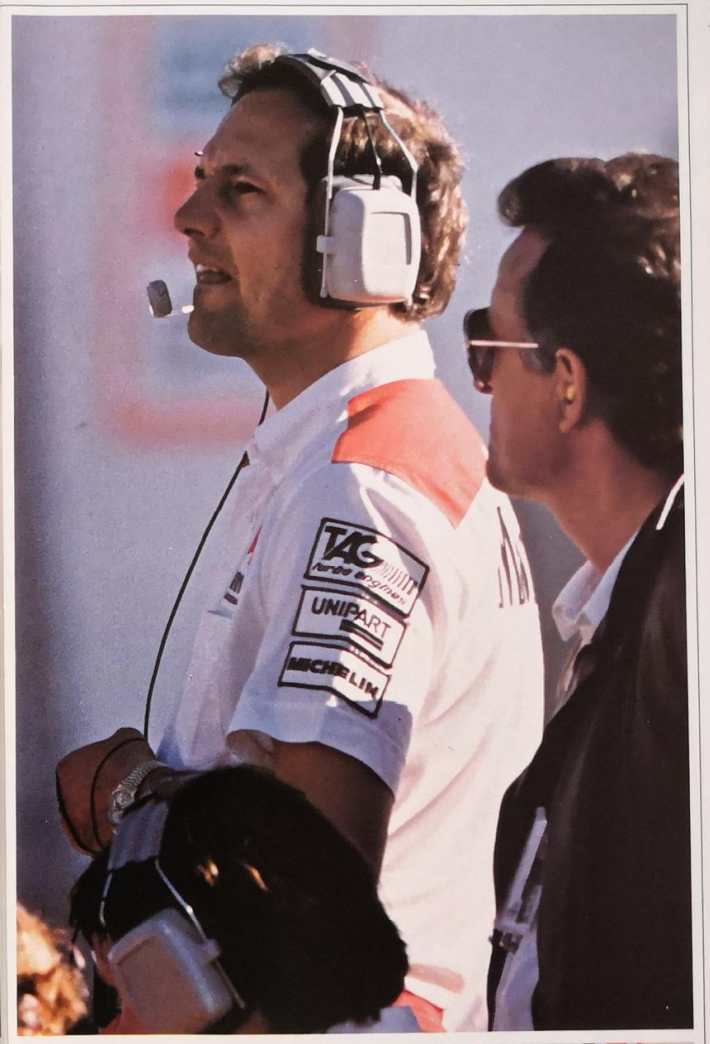
Meanwhile, close by, a small workshop was being kept busy under the careful eye of the 37-year old boss, Ron Dennis, a tall, thin and distinguished looking man who smiles only too rarely. He is an ambitious person, an opportunist, a man who believes in discipline, a talented organiser and business man. A rich daddy's boy, you think? Well, you couldn't be further from the truth. He used to be a Brabham mechanic! Ron loved motor racing from an early age, and rather than waste his time at school, he started out in life as an apprentice at a tottery old garage near Brooklands circuit - Cooper's hide hole.

By 1965, he was working as a mechanic for Rindt (at the ripe old age of 18), who was racing Cooper-Maseratis. Four years later, and with £1,000 in his pocket, he created his own racing team. He managed to obtain from his ex-employer, Bernie Ecclestone, the privilege of entering Brabhams in F2. A cunning move which meant that he was using good material, without having to spend all his money.

One of his pet drivers, was none other than Graham Hill who gave him his first outstanding victory on Easter Monday in 1971, after a sensational race with a certain Peterson. Rondel had become a familiar name, a name taken from its two partners, Ron Dennis and Neil Trudel.

Dennis began setting his sights on F1 in 1974, but as for many other teams, it was a bad moment with the fuel crises. Ron Dennis persevered and in 1975 he founded another company, Project Three, who managed a F2 team for Brambilla at the wheel of a March/BMW. Project Four came into being the following year and they entered two Lancia V6-engined Marches for Brambilla and Cheever. During the 1979 season, Formula 1 was back on Ron's mind. OK, but with whom, with what? The first thing that Ron did, was to get himself an engineer. No sooner said than done, he obtained the services of John Barnard. Although Barnard wasn't well known, Dennis was interested in his work and liked it.

Despite their courage and willpower, the three men didn't find out much about the world of F1. Dennis liked taking risks, but only well calculated ones and here, he was not going to embark on an adventure that from the start was unlikely to succeed. Another problem was that they hadn't found any backers willing to sponsor their project. Marlboro would have been willing, but it was already pumping its backing into the McLaren team in spite of their having no results to boast of. So our faithful trio packed up their belongings and agreed to keep the idea for a rainy day. They didn't have long to wait. Marlboro were unwilling to finance a second team, but were not loath to the idea of a McLaren/Project Four merger! Marlboro, alias, the middle man... McLaren International saw the light of



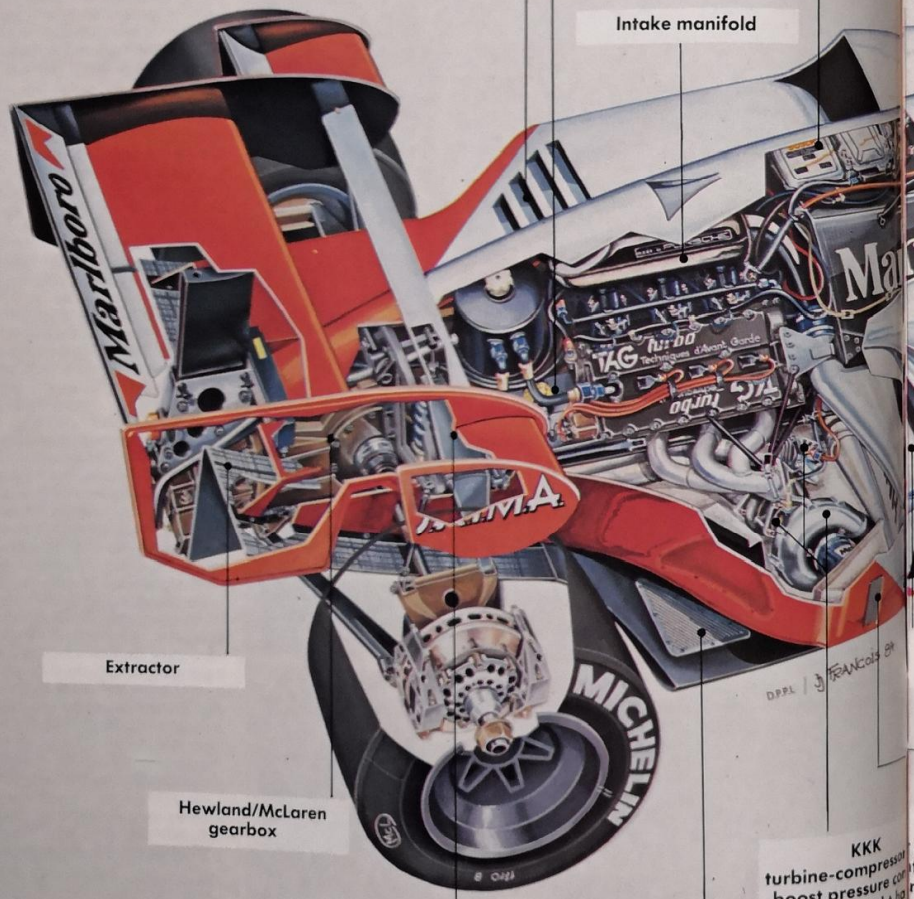
An exceptionally talented engineer and a modern research and development department.

The strict team manager (left) and his conscientious team are all part of the ingredients which make up McLaren's success today.

The men in charge

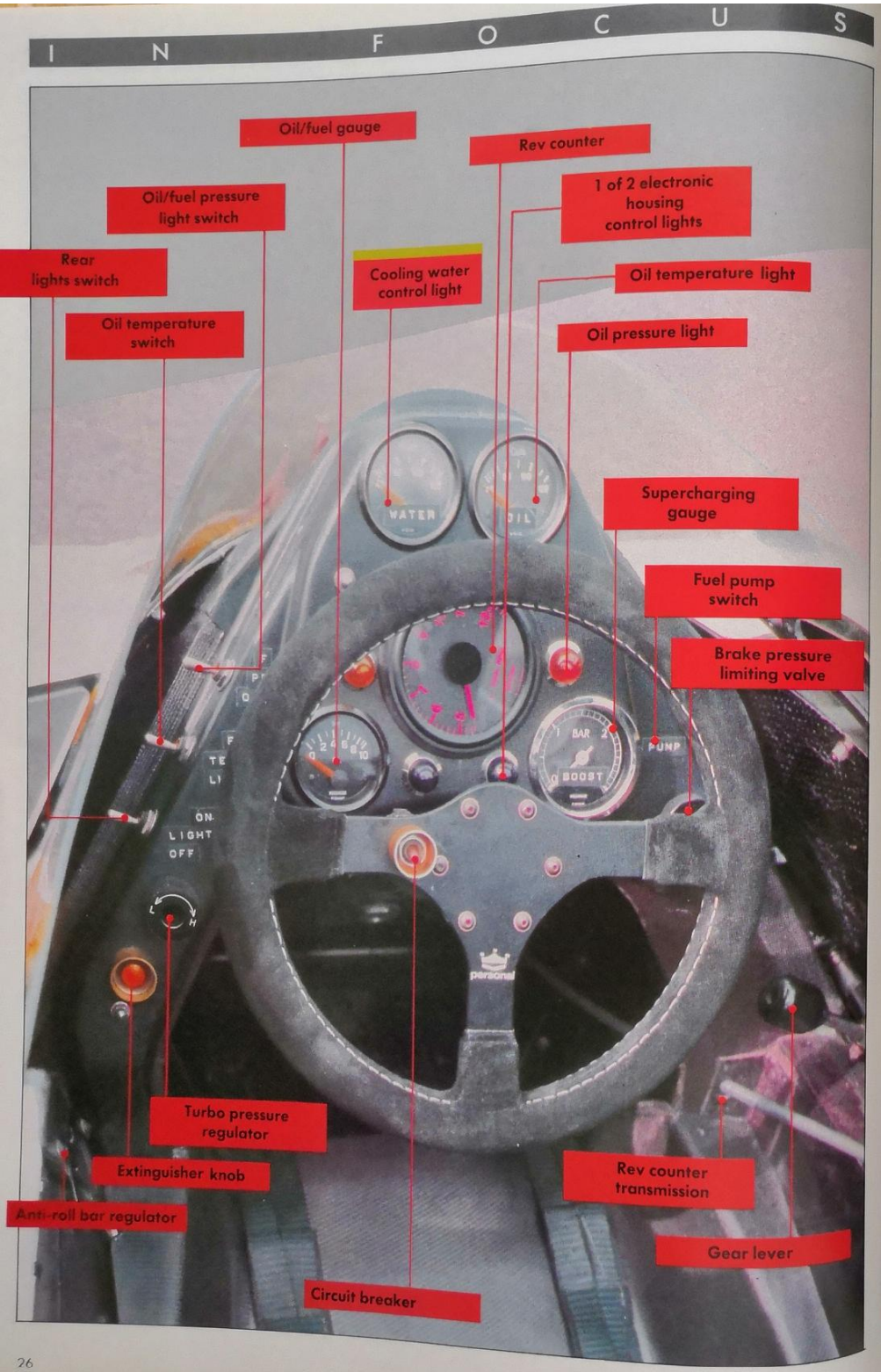
Ron Dennis : Commercial director and team manager.
John Barnard : Technical director and chief engineer.
Creighton Brown : Director.
Robert Illman : Director.
Jo Ramirez : Team co-ordinator.
Alan Jenkins : Engineer.
Steve Nichols : Engineer.
Dave Ryan : Chief mechanic.

McLAREN MP4/2


Bosch electronic injection and ignition housing 1 per cylinder row
Spacer-oil tank
Hot engine air outlet
Intake manifold
Carbon fibre monocoque fuel tank
Extractor
Hewland/McLaren gearbox
Rear suspension: lower parallelogram, upper rocker and tierod
Hot engine air outlet
KKK turbine-compressor unit, boost pressure control valve on right-hand cylinder row
Behr intercooler
Cool air intake from compressor
Water radiator. Mixed oil/water radiator in left sidepod
Single polyester/kevlar bodywork unit
Front suspension: upper and lower wishbones, pushrods and mini-rocker
Circuit breaker
Ventilated SEP carbon fibre discs with McLaren calipers
Flexible aluminium front structure
Marlboro
MICHELIN

TECHNICAL SPECIFICATIONS

Engine : TAG/Porsche, type TTE PO1. V6 inclined at 80°. Bore and stroke : 82 X 47.3. Engine size : 1498 cc. Horsepower : 900 bhp (for qualifying), 750 bhp (for race) at 11200 rpm. 4 overhead camshafts. 4 valves per cylinder. Supercharched by twin KKK turbos. Bosch electronic injection/ignition.
Transmission : 5-speed McLaren/Hewland gearbox + reverse. Clutch : Borg and Beck double disc.
Chassis : Carbon fibre and honeycomb monocoque.
Suspension : Front - pushrod with auxiliary in-board rocker. Double wishbone. In-board spring-damper untit.
Rear : upper rocker, lower wisbone type. In-board spring-damper unit.
Steering : McLaren rack and pinion.
Wheels : Front 280mm, rear 406mm.
Brakes : Front and rear-twin McLaren calipers. Carbon SEP discs.
Tank : Kevlar and rubber aerotec. Capacity : 220 litres.
Dimensions : Wheelbase : 2768mm.
Front track : 1816mm.
Rear track : 1676mm.
Weight : 540 kilos.
Fuel consumption : Approx 67.5 litres /100 km.



day on September 1st, 1980. The two co-directors were Ron Dennis and Teddy Mayer, Gordon Coppuck disappeared leaving the position of chief engineer to John Barnard.

His mechanics are rarely seen smoking whilst they are working. The team is impeccably dressed in red and white on the circuits, navy blue blazers and grey flannel trousers for travelling... The kind of detail which underlines the iron rod discipline... "*It's the only way for strong charactered people to get along together.*" The boss explains, "*Everyone, whatever their position on the team, obeys the same rules, no exception because you're an engineer and he's a mechanic. Even our suppliers have to bend to our rules. In all, there are 85 people living for motor racing on the team. We are not at all like the other British teams who say they create their own cars. Here we do absolutely everything ourselves — even the shell. It's perhaps baked outside, but we assemble it ourselves.*"

The former race mechanic has certainly gone a long way!

DISCREET JOHN BARNARD

... You could also add genius. "*John,*" admits Dennis, "*is the most important element of our success. Thanks to him, we hade made that subtle step between an ordinary car and a good car.*" The two men met, as mentioned earlier, in 1979. John Barnard's name wasn't as yet familiar on F1 circuits, but...

John Barnard was born May 4th, 1946, like John Watson. He passed his exams in car mechanics but was quick to realise that routine work was not for him. He got into Lola in 1968, where he met a "*real*" engineer, Patrick Head, who is the Williams engineer and main partner today. Barnard's first assignment was to take part in the creation of a Super Vee racing car. His talents as a draughtsman soon developed into those of a designer.

"*I designed the whole car myself, right up to the 1.4 scale models. It was a bit of a risk really, but the deeper I got into the project, the more I assumed those risks.*"

The Super Vee was followed by a Formula Ford and then a Sport Prototype. In 1972, John Barnard went knocking on the McLaren workshop doors in order to get some F1 experience. Teddy Mayer took him on immediately and assigned him onto the M23 project. Half of it was designed by him. At that point, McLaren began its Indy project and Barnard designed the M16C/D. 1974 was a memorable year for Barnard, his cars won two championships, firstly Fittipaldi was crowned world champion in the M23, and Rutherford won the Indy championship at the wheel of the M16! Despite his successes, Barnard left McLaren for the Parnelli team who also wanted him to design two single seaters, for F1 and for Indy. The first was not an outright success and the second allowed him to inaugurate a technique, which is all too familiar today — the Cosworth DFX engine mated with a transverse Weissman gearbox.

Chaparral then jumped in with an offer for him to construct a new F. Indy. "*I didn't feel up to designing and constructing the car in the Chaparral workshops in Texas. I was too far from everything. In England, I thought I would be able to obtain better services. So I established a new company and a sub-contractor constructed both cars entirely for me, as well as a spare chassis and numerous spare parts.*" Although the Chaparral 2K didn't win the Indianapolis 500 Miles, it revolutionised the Formula by its conception. The Chaparral directors were less than pleased when they found out that their cars had been designed and built in England, and decided to cut off their association with Barnard, whilst they nevertheless gave the go-ahead for the 1980 programme which he had envisaged... To crown it all, his cars won both the 500 Miles and the Championship they were competing in! "*That's when I realised what the problems were in designing in England and racing in the States... I didn't benefit at all out of it. At that point, F1 came knocking at my door and I thought the best thing I could possibly do, would be to go and open it.*"

The first customer came in the shape of a little Mexican called Rebaque, whose vast fortunes gave vent to some extravagant whims. The second, was Ron Dennis, who had come, if you remember, with the idea of creating his own F1 for his Project Four team. "*I was rather sceptical at first, but I agreed to try for a year. I had to start all over from the beginning. It wasn't just a case of making an F1 out of the Chaparral. The dimensions were different, the radiators placed differently, etc. Lots of little things that needed changing, which meant that everything had to change.*" Which they did indeed. Meanwhile, during one of his trips over to the States, Barnard was introduced to one of the forefront companies specialised in carbon fibre, Hercules. The all-important key to his programme.

Barnard quickly got down to business — his first job was to modify an M29. His second was to get his project, the MP4/1, off the ground, (which he had been nurturing for a year).

It was a simple car with classical suspension but featured a revolutionary carbon fibre chassis. The first of its kind. Because of Barnard, F1 basic car design was soon to change. The aluminium panels were replaced by carbon fibre ones. Barnard calculated that approximately 50 different aluminium sections were needed to construct a traditional shell. Only five carbon fibre sections were needed. Another advantage was the reduction in weight and above all a great improvement in rigidity of the whole unit. Space technology had just come into motor racing and was there to stay. "*When we came to F1 between 1979 and 1980,*" Ron Dennis explained, "*we were already a year out, but during that time we revised our projects and above all, we were able to finalise our carbon fibre shell designs.*"

McLaren International's first big victory was obtained by John Watson at the 1981 British GP. Four victories followed in 1982 at the hands of Watson and Lauda. The rift between the old and new directors widened. On the one hand, they didn't agree on the same approach to racing and, on the other, they differed in their policies of obtaining a new turbo engine. Teddy Mayer and Tyler Alexander, from the old school, sold their shares to Dennis, Barnard and Brown, the three McLaren International co-directors, and cleared out. Not so long ago, it was these three same people who had forsaken their F1 project as they felt they were lacking in experience...

Ron Dennis stands out as a man lacking in modesty, typical of those who have made it, but his outstanding feature, is his incredible gift for organising, the attention he pays to detail and the discipline he demands. Even on a wet day during practice, his cars are always spotless and in excellent condition.

As soon as the McLaren/Project Four merger was finalised in September 1980, John Barnard inaugurated his carbon fibre chassis. A definite technological success. But he was already thinking about other things, about turbo engines, just like Ron Dennis. Both men shared the same quality, that of projecting their activity into a long-term view. They inched their way ahead methodically, planning their ideas a little like an imaginary jigsaw puzzle. The problem was, which engine were they going to use? Barnard was contacted by Heidegger who had designed a 6-cylinder turbo engine "*Six-cylinders in line? Too long. Lateral power intake, inclined... No, I didn't like the engine at all.*" Teddy Mayer and Alexander were working overtime in trying to find a contract with people using already existing engines, like Renault or BMW. "*I didn't like the Renault engine either, with its original cast iron block. It wasn't designed for F1 racing. The BMW? I don't believe in four-cylinder engines, that too was a cast iron block.*" There was no way that the gaping hole that had grown between Mayer and Dennis would close. "*The biggest mistake that some engineers and team managers make when they go to see an engine supplier, is to enquire how much horsepower they're going to be getting, how many cylinders and how much it's going to cost them. I wanted to start out on a blank sheet of paper, with precise specifications complying with the ideas I had for my car.*"

Their big chance came in the winter of 1982, when Barnard obtained a meeting with the Porsche managers. He went to Weissach, his brief case full of ideas, plans and demands — which had to respected before Hans Mezger, the Porsche engineer, put pencil to paper to design his future engine. Height, width, length, the Vee angled at between a minimum of 60° and a maximum of 90°, position of the oil and water pumps, engine mounts exhaust system, etc. Barnard knew exactly what he wanted. The Porsche men scratched their heads. "*OK, we'll go along with your ideas, your engine will be ready in three years.*" "*Three years!*" exclaimed Barnard and Dennis, "*Impossible! We need it for next year!*" The cost would be decided later,

McLaren at that stage were the only ones involved and the only customers to have a Porsche turbo engine constructed exclusively for them, with their logo on the cylinderhead cover. Production rights would remain McLaren's too. But, how were they going to finance such an undertaking? Dennis, the competent business man, was confident that he'd find a sponsor in no time at all. If not, then that was that, McLaren would be in debt. But they would have a rare pearl in their hands, which they could always sell if the need arose to reimburse their debts. There would be no shortage of F1 teams willing to pay for a jewel like that. They were fortunate in finding quite a few "*interested*" sponsors, and shortly after, the TAG owner, Mansour Ojjeh, agreed to play along with them. Yet another company was set up, whose aim it was to manage and promote the F1 engine. Porsche had the role of sub-contractors, Ron Dennis, John Barnard and Mansour Ojjeh were the owners.

Work (on the prototype) commenced in Germany in December. Then, catastrophy struck when FISA announced that ground effect was no longer authorised, neither were skirts or systems used to fill the gap between the bodywork and the ground. In short, everything on which Barnard had based his plans... John was disheartened. "*There was no point in building my engine. It was obvious that if we'd known about the regulation changes beforehand, I would have designed a different engine.*" The project was underway, and there was no going back. In fact the V6 was about to be fitted to a Porsche 956 for testing, much to the indignation of the McLaren men, who wanted to see it fitted to an F1 of sorts. "*There was no point in the engine going out for a 24-hour stint on the Porsche circuit, we weren't building an engine for the Endurance championship, but for F1. There is absolutely nothing in common! They didn't grasp the main problem that was worrying us — turbo response.*" It was difficult to evaluate the performances of a V6, fitted to an 860 kilo Group C car! From the endurance point of view, however, it proved to be a fruitful experience. Finally, the drivers got down to work at the beginning of the year in an old McLaren MP4/1, renamed MP4/1D. Despite the obvious turbo lag, the drivers were thrilled with the car. They, and Porsche and Marlboro, pushed Ron Dennis and John Barnard into quickly preparing two transitional single seaters to be entered, if need be, for GPs. Barnard would have prefered to finish the season with the Cosworth engines... The rest, you know... The MP4/1E made its debut at the 1984 Dutch GP on August 28th, followed by Monza, Brands Hatch and Kyalami, in quick succession. A few "*teething*" problems were encountered, with the distribution and the electrics. However the star of the show at the South African GP wasn't Piquet, the new world champion, but Lauda, his successor...

The principal problem concerned the electronics at that stage. The Porsche V6 was initially equipped with a mechanical Kugelfischer electronic unit, but Bosch, one of Porsche's privileged collaborators, wanted to have its own entirely electronic system fitted. The only "*slight*" problem being, that it didn't exist! TAG and McLaren then began their search to find a firm willing to manufacture the product in question in record time. Ford, Lucas and Marelli all said, "*Sorry, but...*" Porsche won in the end, and so did Bosch.

A genius of an engineer, a tough manager, averse to the slightest concession, two very, very rich sponsors and Porsche technology. What is the key to the McLaren team success? There is no single key. In the same way that it's impossible to pinpoint the team's miraculous ingredient. There is no overriding element on the MP4-2, which is itself the evolution of the late 1983 MP4-1/E. Take a closer look at this world champion red and white racing car. What's different about it? Nothing! A four-year old shell classical pushrod front suspension, and rocker rear suspension — Gordon Murray would do anything rather than equip his cars with it. One of the advantages but by no means exclusive to McLaren, comes perhaps from the SEP carbon fibre brakes or the carefully designed aerodynamics. Many other teams tried to copy the McLaren design during the season. Without much success, I hasten to add. Another advantage is undoubtedly the V6 TAG/Porsche coupled with top turbo technology and Porsche experience and relatively low fuel consumption figures. There you've got the winning combination. It's as simple as that. The car had only been briefly tested at the Ricard circuit before they went to the Brazilian GP. John Barnard was feeling nevertheless, very chuffed with his creation. "*Everyone thought that with the end of ground effect, that streamlining was no longer important. Well they got it wrong, because in F1 it is. In fact the aerodynamics are even more important now than before. We have got back 75 % of the lost downforce!*" Boasting? No. John knew exactly where he was standing after five months of tests through the wind tunnel.

All that we can hope now is that McLaren's rivals will have progressed enough to put themselves on an even footing with the new world champions by the first round of the 1985 season. Perhaps it's easier to understand now what Ron Dennis meant when he very modestly came out with, "*I would love to know what the engine would have become if Porsche had decided to construct its own F1 and enter a works team.*"

No Comment. ■

OBJECTIVES FOR 1985

Three days after the last GP of the season, Lauda and Prost began a series of press conferences in various capitals of the world, starting with Paris. They answered some of the questions that you yourself would undoubtedly like to know the answers to.

What is the outlook for 1985 for you? It will be difficult to improve on this year's results!

Prost : *Yes it will be difficult to do better than this year! A Formula 1 team, just like any other team, has to find a new motivation for the following season when it has just obtained the world title. No F1 team has ever clinched the title two years running. McLaren will be the first... The close-season is long and I'm sure we'll manage to motivate all our team members. That's our management's way of thinking and that's what we, the drivers would like to do. As for the technical side, there's always something that can be improved on. When ground effect was abolished, everyone said that F1 cars wouldn't be able to improve on their performance figures. This year they were faster. We at McLaren are only too well aware of the weak points. The first version of the Porsche power-block came out in August 1983. We have been racing in an improved version since the beginning of 1984 and since then, no changes have been made. We decided that as long as everything was working as it should be, we would make the necessary modifications at a later date, during the off-season, for example. That way we wouldn't disrupt our 1984 plans, and we'd be in a position to prepare for the 1985 season under the best possible conditions. Without going into the details, the electronic injection will be worked on and engine flexibility. John Barnard is designing a new car to comply with the new rules concerning the aerodynamics which forbid lateral fins on the rear winglet. In the light of this season's results and the development programme that has been established, I feel confident for next year. We'll just have to wait and see if any other teams will catch up or even overtake us... But that's another story and part of the uncertainty that goes with F1.*

Lauda : *I agree entirely with what Alain has just said!*

Seven GPs for Prost and five for Lauda — who was crowned world champion. Should we change the points system and allocate more points to the winner?

Lauda : *No, no! Of course I don't think that the system should be changed! (Niki in fits of laughter).*

Prost : *Well, if a medal system had been devised from the start, I would have been crowned world champion three times by now! May be even four! I don't think that you should change the rules to be world champion or to comply with certain peoples' interests. The rules are there, and I abide by them. Now that I've understood how the system works, I'll drive accordingly next year! (Smiles at Lauda).*

Has Michelin's withdrawal affected you greatly?

Prost : *This year Michelin provided us with the best products available. However, it's not true to say that McLaren became the world champion because it was on Michelin rubber. Other teams were running on Michelins too. I feel that next year, the cards will be dealt differently as all the top teams will be equipped with Good Years, except Brabham. Next year, no teams will be favoured by the tyres and the difference that existed between McLaren, Ferrari, Lotus, etc. will not exist any more. I tested Good Years before I went to Portugal, and I found them to be very good. The only problem was that they modified the car's handling completely, but that is something that can be worked on. What ever the case, I firmly believe that the best engines, the best drivers and the best cars, will always be out in front.*

What do you mean by "modified the car's handling completely"?

Prost : *The balance was gone and there was a pronounced oversteer problem. Good Year have an excellent front tyre, but the rear is not so good. In the short term, the car will have to be set up differently. Anyway, we've got all winter to work on it and find the best compromise.*

How are Lauda and Prost going to organise the off-season?

Lauda : *I can't talk about testing at the moment because my diary is full of promotional activities until Christmas. Every single day is taken. If testing is absolutely necessary, then we'll have to do it at night! We'll have to find a well-lit circuit somewhere and fix the cars with headlights!*

Niki, you promised Alain that you'd help him get the '85 title. How do you intend going about it?

Lauda : *Yes, that's what I said! All Alain has to do is to tell me what he wants and I'll do it. We'll discuss that again at the beginning of next season.*

What do you think about racing on both street and natural circuits?

Prost : *I like Zeltweg, Zandvoort and Brands Hatch because they're all good natural circuits and interesting technically. If Estoril was resurfaced, it would also be great. However I don't like Dallas or Detroit. In fact I don't enjoy driving on street circuits at all. The only one I do appreciate is Monaco, especially with Ickx as race clerk!*

Lauda : *I would like to remind you that in the interests of popularising F1, there must be an equal number of both types of circuit and we must also go to new circuits. Estoril is a good example of how to make a good name for F1 in Portugal. The same applies to Dallas. It's up to FISA to find a compromise between permanent circuits and city circuits.*

You've often spoken of the good comradeship between yourself and Niki. Now, it has developed into friendship. is it sincere?

Prost : *You musn't forget in what conditions I came to McLaren. I had quit Renault suddenly and I didn't have any firm offers for anywhere else to go, which is why I accepted a huge financial sacrifice. I also assumed the risks of being Niki's team mate. He too, accepted me despite the risks I might represent for him, although he had been "at home" there for two years. All sorts of tales were being told about us, but there was no truth in any of them. As we both strove towards the same title, we actually drew closer together, and we often joked about it. I'm sure that if the rules allowed the title to be shared between two people, then Niki would have done so with pleasure.*

Lauda : *I realise now that I made a mistake in accepting Alain into the team! He's too fast for me. If it wasn't for him, I might have been world champion as early as the South African GP!*

Did you ever argue?

Prost : *No, never. We never had an argument or shouted at each other. Niki got rather het up during the second qualifying session at Estoril but it wasn't my fault. No, we have a perfect understanding of each other.*

Lauda : *We didn't have a single problem from the beginning to the end of the season. We always acted in the interests of the team.*

Prost : *At one point the team started falling apart. One half was openly defending Niki and the other me. We were quick to spot this feud within the team and we talked about it. It could have easily turned into rivalry, with disastrous consequences.*

Niki, you quit F1 because you weren't enjoying yourself any more. What about now? How do things stand?

Lauda : *Yes, I left F1 because I wasn't enjoying myself anymore - also to do something different. Like making my private air company work. I came back as soon as the motivation came back. Today, after the hardest season in my career, I can only say that I'm very pleased to be driving and to be fighting for something. Fighting for half a point for example!*

Brief history

Grands Prix: 250. Debut in F1: 1966 Monaco GP.
Record: 42 wins. 1st victory: 1968 Belgian GP.
Fastest laps: 27.
Pole positions: 21.
World titles: 1974 Fittipaldi ; 1976 James Hunt ; 1984 Niki Lauda.
Two world constructors' titles: 1974, 1984.

1984 record

Grands Prix : 16 victories ; 4 1-2s ; Placings : seconds : 5 ; thirds : 5 ; fourths : 2.
Fastest laps : 7. Pole positions : 3.
Points scored : 143.5, an average of 8.96 per GP. Preceding record : 1980 Williams : 120 points in 14 GPs, an average of 8.57 points per GP.

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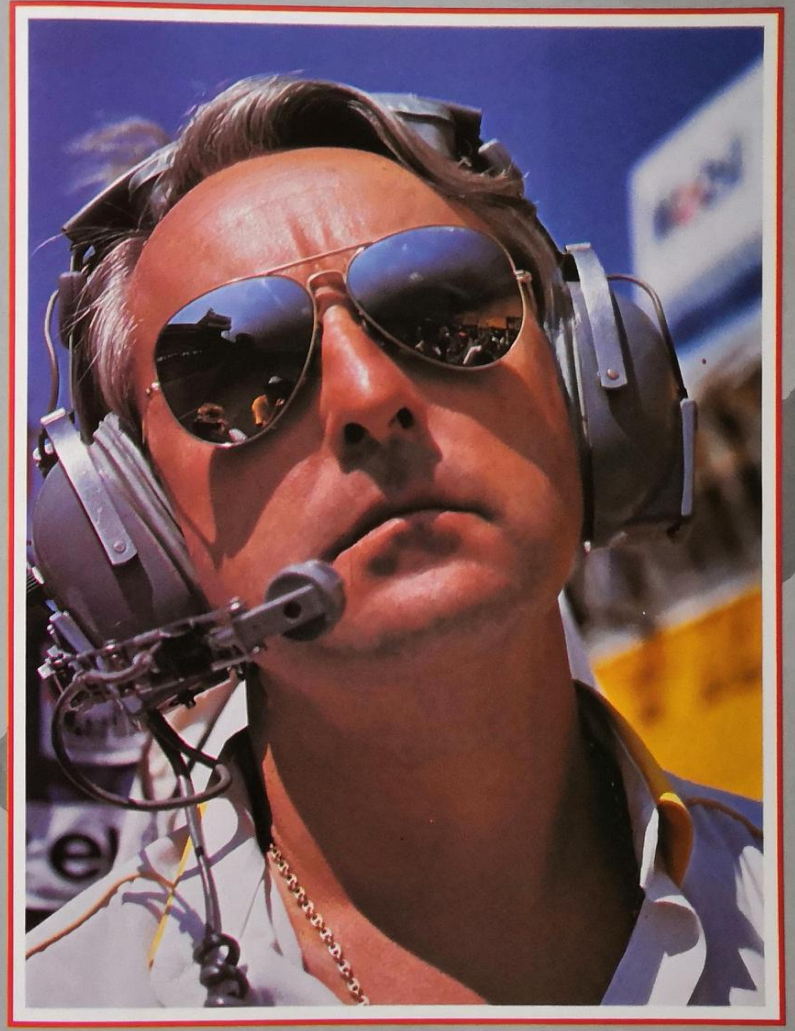
LARROUSSE



WHY I QUIT

GÉRARD LARROUSSE'S DECISION TO QUIT RENAULT SPORT FOR LIGIER LEFT MANY QUESTIONS UNANSWERED. WE WENT TO FIND OUT THE TRUTH, AND NOTHING BUT THE TRUTH, FROM THIS IMMENSELY CREATIVE MAN BEFORE HE BEGINS THIS NEW STEP IN HIS CAREER.

Larrousse was recently informed as to the identity of his successor at Renault as the sports director. However, quite a few details and problems have to be tied up before he is really "free". Larrousse actually smiles today, something he hasn't done in years, a sure sign that, from the psychological point of view, he has been "freed". Before we find out why, let's first take stock of this season's results.

Renault seemed very optimistic on the eve to the start of the 1984 season. You had a new monocoque, the engine had been worked on, there was talk of electronics and you undertook much testing during the 83/84 interseason.

I PUSHED DUCAROUGE INTO GOING TO LOTUS

Yes, although we were all upset at having lost the previous year's championship, and at losing Alain Prost, we prepared our 1984 season thoroughly. We got to the first round of the championship at Rio with a new, highly-performing car despite some perfectible weak points, concerning the engine cooling system and oil surge. These faults were quick in revealing themselves at Rio which made it difficult to put in good lap times and impossible to carry out any serious endurance testing. We had to change the inner engine cooling air circuit for an exterior one which resulted in a deterioration of the aerodynamics. Apart from that the R50 wasn't a bad car at all.

Even the engine? Tambay's running out of fuel on a couple of occasions must have worried you.

We put a great deal of time and effort into the V6. It was practically entirely recast which greatly improved on its reliability and placed it amongst the top performing F1 cars. The fuel consumption problems arose from the fact that the injection settings varied enormously with the consequences that Tambay experienced on two occasions. The other advantage of the V6 which no-one ever mentions is that it sold well and had a good follow-up after sales service. Supplying three F1 teams is no slight undertaking. There are quite a considerable number of engines to provide, but we managed. At least Renault Sport's organisation was adequate in that field. To resume, we had to solve two important problems:

- firstly the cooling system at Rio had to be modified, followed by the adapting of large radiators as from Dallas, when we had to lower the engine temperature even more. In all the aerodynamics on the R50 were affected twice.

- Secondly, we had to extract more horsepower out of our V6 when Porsche made their huge leap forward. The only way we could achieve this was by making better use of the boost pressure which necessarily entailed higher fuel consumption and higher engine temperature. A vicious circle. Anyway, between the Rio V6 and the Monza V6, there was an extra 100 bhp available.

It did appear at the Monaco GP that the chassis weren't exactly strongly built.

Michel Tétu has already been over this several times; the speed and angle of the impact, a mixture of carbon and kevlar construction materials for the shell etc. Everyone, and you were one of the first, drew comparisons between Lotus and Renault Sport, with Lotus coming out the winner — as a result of their chassis. Let me remind you that Larrousse got the Lotus organisational structure into operation and that I pushed Ducarouge into going there. I would never have dared such a move if I ever thought there would be a show down. I would also like to add that private teams unofficially linked with a constructor enjoy far more advantages than integrated teams, such as Renault Sport. The idea behind my putting Ducarouge in the Lotus camp was that I was confident that he would benefit far more than if he were in a large company. I also thought it would create some healthy rivalry between the two teams. Which it did throughout the year. I do not agree though, when I hear people say that Lotus were way ahead of Renault. Better performing, OK, but that could be attributed to their Good Year qualifying tyres which weren't that bad at all. If you compare their race results, they were hardly ever ahead of us. Twice, I think.

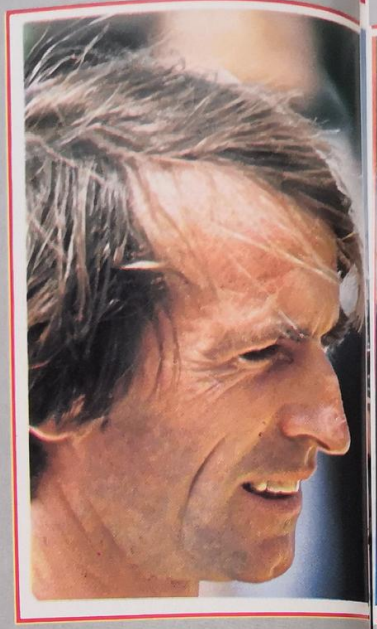
But de Angelis is the non-McLaren world champion!

Yes, Lotus gained more points than we did. I put that down to the skills of the drivers. Elio had a remarkably consistent season, he finished 95% of his races in the points, thanks to Lotus, OK, I believe that it's more of a driver/championship problem than just the qualities of the car. Our greatest setback in points came from the Monaco crash when both our drivers went into the guard rails. That was the day when any chances we had of finishing third in the championship disappeared. To conclude with what we were saying earlier concerning the chassis, our team cannot be blamed in any way. The negative aspect of the R50 was the difficulty we experienced in finding the ideal settings. You will notice that our cars always had better results on flat track surfaces than bumpy ones. I believe that the pushrod suspension was the cause, as it produces higher variable rigidity. The damping was too hard over the bumps. Even McLaren reverted back to using rocker suspension.

The Monaco GP can be considered as the turning point of Renault's season, can the same be said of your career?

I can't blame Warwick for his accident, it's the kind that often happens, especially at Sainte-Dévote. It was a bad blow for us. We had a shell damaged at Dijon and two more were wrecked at Monaco... With only a few days to go before the onslaught of the American rounds, we were carless. Apart from simply constructing the chassis and repairing the others, we also had to redesign them to make them more shock-resistant. The following rounds were not much better, only one of our two drivers competed in the next two, then, the gearboxes blew at Detroit, and both drivers fell into the same trap as everyone else at Dallas... A shame, because that was when the cars were giving of their best. Not only that, but those races were on slow circuits, which meant that we wouldn't have had fuel consumption problems. Just when we could have taken the lead from the McLarens, we ruined our chances once and for all of winning the title.

So in fact, you began thinking about changing at this point?



I HAVE ALWAYS GOT ON WELL WITH GUY LIGIER

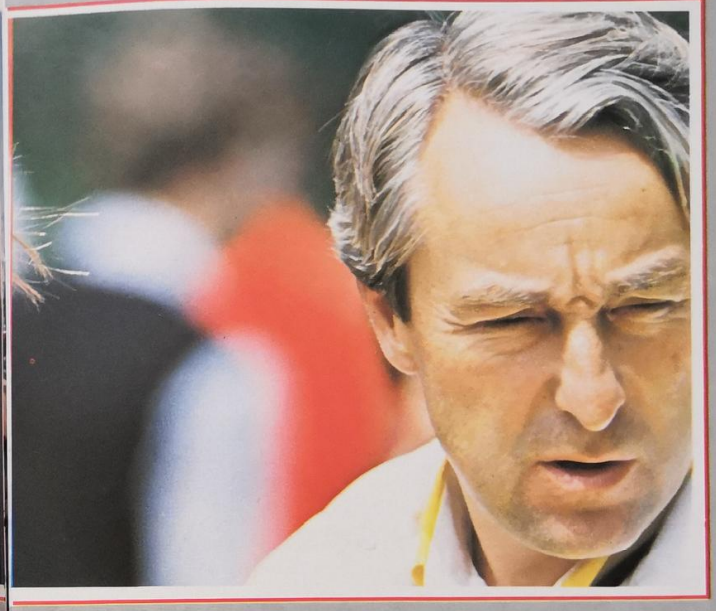
When you don't chalk up good results, you always wonder why, and I've asked myself a lot of questions since I started out as the competitions manager here at Renault, even if no-one noticed. As the season drew to a close, I began to find it harder and harder to accept the situation I was in. I felt that I no longer had the willpower or strength to direct the team. When you stay with the same team too long, you tend to lose some of your motivation. That is precisely my successor's trump card. When you enter a team you don't know, it's that much easier. You can tell people what you want them to do and they do it without question. My problem was that it was getting tougher to get the different parts into gear.

Just before the French GP, you announced your intention of suspending the F1 schedule. Was it intentional?

The reason I did that was to warn everyone that if we didn't find a remedy to the fuel consumption problem, we wouldn't get to the end of the season as at first planned! I was right, because the rest of the season was no walk-over for us — far from it in fact.

Who were you warning? The Régie or the research and development department?

It was aimed at both people inside and outside Renault, I had the impression they didn't believe in my ideas any more. I know I'm repeating myself, but the extra power that we extracted out of the engine in order to keep up with our rivals, resulted in a dramatic increase in fuel consumption. We found ourselves between the devil and the deep blue sea. I don't think we could have obtained better results in view of the material available. An interesting comparison can be made with Brands Hatch, where we were between 1.5s and 2s behind the McLarens, and by the end of the season, they were only half a second quicker. We at Renault, weren't the only ones to have this problem, look at Honda or BMW, they spent a great deal of time and energy without winning many points. Ferrari had trouble keeping up with them too. But in the end we, and Lotus, were the only ones to worry them — a little it must be admitted. So at the end of the day, things don't look that bad do they?



What mistakes do you think were made that could have been avoided?

When you're managing a team of this size, you're obviously going to come up against criticism. So many decisions have to be made, and one day or another they'll crop up again when you least expect it. That's the way it is. It's always much easier to criticise when you don't belong to the team. Today I realise of course, that I made certain mistakes which I ought to have avoided. Although some decisions were entirely my own, they weren't of such consequential importance. I have often been criticised for making technical decisions, which is absolutely untrue. I did not want to get involved in the technological side of the organisation, only the human side. I orientated people according to their competences and said, I want a car weighing 540 kilos and a 750 bhp engine, coupled with a reliable gearbox. I never told them what procedure to use, either for their designs or the actual construction.

The only problem is that you always come across a small faction who refuse to follow suit. It appears that the traditional gap between the chassis and the engine department still hasn't been bridged, rather it is widening.

That kind of rivalry exists in all teams — Renault is no exception. For us, it all started with the Renault Gordini set-up, which remained for a great while. I feel that I have succeeded in opening up their outlook. I believe that my guiding resulted in improved relations between the chassis group and the research and development section. Today, although things are less strained than before, I don't think it's any worse at Renault than between say, Brabham and BMW, McLaren and Porsche, Williams and Honda, Euroracing and Alfa etc... My job was to maintain good working relations between the two and I think I coped because we were at the top for four years and the chassis/engine unit as a whole gave a balanced result.

Did Larrousse and Dudot always get on well together?

Yes, apart from quibbles over administrative problems. I didn't agree with the policy of having a technical management group for both the chassis and engine groups. I didn't think it would be efficient. That was at the time we were developing turbo technology which meant that the team had to be integrated in order to build a new chassis to fit the new requirements of supercharged engines. The car was built around the turbo. As time passed, things changed. The engine progressed rapidly and then once it had settled down, it no longer dictated the chassis' design. I decided it would be preferable to separate the two departments so that each could be as autonomous as possible. As for the other F1 teams, this move meant that the engine was only one element of the car. However this decision was bitterly resented which is why I asked Dudot to resign from the general technical bureau and to return to the engine department. This is something that happens all too frequently nowadays; Ferrari is another example. Forghieri was head of both departments for a number of years, and that resulted in failure. Today, he's back in the engine department and Postlethwaite has assumed new responsibilities in the chassis department. In fact, all British teams have suffered the same fate.

IN MY POSITION AS THE RENAULT SPORT DIRECTOR, I FELT THAT JACQUES LAFFITE DIDN'T FIT THE REGIE'S IMAGE OF AN IDEAL WORKS DRIVER

Has the Régie Renault made criticisms concerning Larrousse?

I don't know, you'll have to ask them.

Do you think that Prost's leaving is playing against you today?

Frankly, I don't think that the Régie is blaming me for Prost's leaving. At the outset, Larrousse/Prost relations were better than Prost/Renault's. What was the reason for the divorce? The Régie,

of course. I did my best to arrange a truce between them, but I failed. I don't know how on earth things got as bad as they did, it all started the day he came I suppose. Prost's attitude half way through the '83 season was anti-Renault, not anti-Larrousse. He criticised Renault's hold on him and all the pressure they were exerting. He kept saying that he wanted to leave, whereas all the team were a hundred per cent with him. When he went, we lost one of the best racing drivers in activity. That's something I deeply regretted, but that's not the point.

What result has all that had on the present situation?

I SEEMED TO SPEND ALL MY TIME AT RENAULT TRYING TO GET PEOPLE MOTIVATED

The result is that I'm taking on another team, Ligier, to be precise. I'm sure that we'll manage.

Have Larrousse/Ligier relations always been cordial? If my memory serves me correctly, I seem to remember that they were rather stormy at one point.

What ever anybody thinks, we've always got along well together. I've known Guy for a long time. I used to race for him. When he was going through his anti-turbo period, there was no way that I, as the Renault Sport director, could keep up positive business relations with Ligier, the constructor, so openly opposed to what we at Renault most firmly believed in. The day when he capitulated to turbo technology, when he realised that there was no alternative, our friendship resumed where it had left off. We even supply him with our engines, not that there are many results to boast of. Guy Ligier has never said it was our fault, even though when you're down you have the impression that everyone's out to get you. We carried out our side of the deal just as for Lotus and nobody was "done". At least we got to know each other better during that time.

Why was your working relationship with Jacques Laffite more blusterous?

We never really had any personal problems, but when it came to our professional relations... Larrousse, the Renault Sports director thought that Jacques Laffite, the driver, didn't fit the Régie's image of a works driver. He has remained typically French in that he says just what he thinks, a little untactfully at times. The Renault team didn't appreciate his attitude. Jacques is far more at home in a team like Ligier which suits him down to the ground. I'm only too pleased to have Jacques as a member of the Vichy team, his very presence acts as a fantastic catalyser and will play an important part in remotivating the team. His vitality and happy-go-lucky attitude will be a real tonic for everyone.

But, why Ligier? Did you have any choice? Wouldn't you have liked an alternative job with responsibility at Renault?

I have to admit that I didn't have much option. I centred my whole life around my job. I gave it everything I had, my personal life came a long way behind. I lived for motor racing, and in particular for Renault. You can't imagine how much time a job like this takes up. You have to consider the relations you have with the technical management at Renault, there is also FOCA (which is not always smooth sailing), FISA and the FFSA. My job as competitions manager entailed budgeting, unions, work schedules, staff and circuit management problems. The last point was the most apparent as it took place on the circuits in full view of all those present. Luckily I was able to shift the responsibility of rallying on to Patrick Landon as I just didn't have enough time. I would try and recuperate when I was free.

Isn't that part of the reason why you chose a small team like Ligier, to get away from the gigantic Renault machine?

Well it's certainly an important point. I'm looking forward to working with Ligier and his small group. I would have liked to have cut down on the 200-odd people working at Renault Sport and I had started making plans at the end of '83 which didn't have time to materialise. Perhaps they never will, with Michel Tétu coming with me to Ligier. There are 70 people working at Ligier and everyone knows each other. On the other hand, I'll be coming up with problems that face all small teams, namely the budget. It doesn't worry me at all, I'll have a dynamic and competent team to compensate. At Vichy, everyone is aware that their future is a result of team effort, and consequently of individual results. It's always much easier to manage a team that works with that sort of philosophy. I will be assuming the role of organiser more than anything else. At Renault, I spent far too much time trying to motivate people, I was always there behind them saying "Go on, work! Look at these resultats, they're no good. You've got to do better!" I seemed to spend my whole day doing that when I had other far more important things to do. If they get a new boss or engineer, or a driver they like, they'll get going again, I'm sure.

As it appears that the majority of the staff at Renault resent the Régie branching out, why didn't the privatising of the Renault F1 team happen?

I was all for it, but who else was? I would have found myself on my own, or perhaps with Michel Tétu and Jean Sage. There wasn't a single member of staff who would have agreed. We were quite prepared to rethink our policies and assume the risks if necessary, unfortunately not everyone was prepared to follow suit. I am taking a risk in going to Ligier — who knows, perhaps I'll be out of work this time in two years! I'd rather not think about it, and I'm lucky in that I don't think I will have too much of a problem finding a job, if I need one. That's my attitude to life. The staff at the Régie don't think the same way — they benefit from a number of social advantages which are extremely difficult to find elsewhere today. You can't just ask those people to work differently with different statutes. They'd prefer to put a stop to the F1 activities. Anyhow, I believe that it would be against company policy to privatise the competitions department and it would be completely against the entire reasoning behind the Régie participating in the F1 championship.

With regards the drivers, how did the '84 season go?

Patrick Tambay obtained some excellent results this year, as well as some very bad ones. At the beginning of the season he was let down by the material. I feel that he approached his season with Renault in a rather dejected state, he took it rather badly that he was no longer with Ferrari and he took a long time getting over it. We provided him with a better car than Ferrari would have given him this year. He had an utterly superb second half to the season. However, it seems that Patrick deeply resented my negotiating with Lauda, although there was absolutely no need, and I'd tried to reassure him. You simply can't compare a driver like Lauda with Tambay. There was no need for him to feel ashamed, after all, Niki is the triple world champion. It's difficult to say this, but a team manager can't let friendships decide who he takes on a team, Patrick has got to realise that. It would have been interesting from all sorts of view points to have a driver like Niki Lauda on the team. Once talks had fallen through, I came straight back to Patrick, and said that everything was fine, we'd continue together. I wish he hadn't taken it so badly.

Your argument at Estoril was just one of those things that happen, then?

A TEAM MANAGER MUSTN'T ALLOW HIS FEELINGS OVERRIDE HIS DECISIONS

You know, it's not always an easy-going relationship between a driver and his team manager. I ticked him off in fact for some of his press statements. When you are a works driver, you can't just say what you like, you have to follow a certain moral code vis-à-vis your employer. Sometimes it means turning you tongue 77 times before you talk.

The policy that you carried out was rather questionable at times. Prost quit, but then, so did Arnoux and Castaing, to name but a few.

The duty of a team manager is to continually progress. You can't just stay nine years with the same people in the same positions. There are always some people who don't agree with your new plans. I have continually tried to improve, since I came to the Régie, by repositioning certain elements and doing away with others. That was part of my job. If we had been crowned world champions, no-one would have said anything. And now today, you ask me why I sent François Castaing away! To make it clear — I didn't, he left because he didn't see eye-to-eye with the way I managed Renault Sport. He couldn't face up to the fact that I had become the Renault-Gordini head. The only way Renault could succeed was to have a single boss with a sole technical director. He wanted to keep the engine section separate. It was just one of those things. As for the drivers, they weren't fired at the end of every season! Jabouille left because he had had enough and thought he was being underpaid — he's entitled to his opinions. Arnoux left as a result of his rivalry with Prost. I pushed him into leaving to keep Prost, I thought that he alone would keep Renault going. He proved that he was worthy of such a task, even though he didn't manage to obtain the world championship. All our drivers, with the exception of Cheever, have all stayed a long time with us. We haven't had more than our "fair share" of drivers. If Cheever only stayed on for a year, I would say that it was lack of driving skills that led him to leave. I'm no longer responsible for Warwick and Tambay's futures.

To finish this interview, Gérard, could you tell us who was most against you at Renault, or elsewhere, or who ruined your chances of including Lauda on the Team.

I HAVE LOST FRIENDS SINCE I STARTED OUT AT RENAULT

I endeavoured to create positive team spirit, and I think I succeeded. Perhaps some people got jealous? My job meant that I came in for as many compliments as criticisms. What else could I do? Wait until Renault itself decided to put an end to their sporting activities, or leave? I quit because I didn't want the boys to come under any more criticism.

Could you actually have got Renault to withdraw from F1 in the short term?

Everything should stay as it is for 1985. I saw no point in continuing in the prevailing atmosphere. There was a feeling of failure all around. Renault Sport can only progress now that I have left. I hold a number of people at the Régie in high esteem. I know that my going to Ligier has been accepted rather badly by some people, but in a way I feel that I will still be working for Renault and helping in the development of its engine — I hope. I will miss my team most of all. That's going to be the hardest part.

The much-talked about Renault/Lauda merger fell through because you couldn't agree on a suitable salary. Where did the farcical figures come from? Who would have invented them, and how much was your last offer?

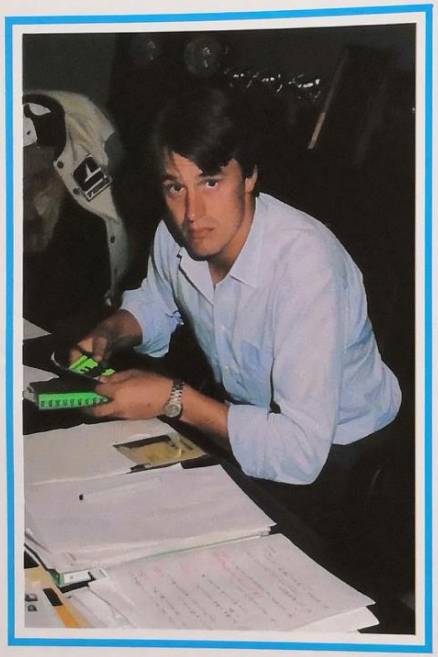
The Renault/Lauda union did not take place for the reasons you are only too well aware of, namely social and financial.

Yes, but since the figures quoted were grossly exagerated!

After the rumours of $2.5 million, we wouldn't have been very creditable in offering Lauda a salary less than two and a half times that amount! In fact the whole deal was discussed at the wrong time. Firstly there were strikes at Renault, and Michelin had just announced their withdrawal from F1. Just for the record, I would like to add that Niki wanted no more for 1985 than Prost for 1983! ■

Gérard Larrousse was born May 23rd, 1940. He studied at the ESCP, the Parisian School of Commerce.
While he was a student he began taking part in rallies from 1961-1965 and competed in the French Rally Championship at the wheels of an Aronde, a Dauphine 1093 and an R8 Gordini.
1966 was all decisive in that he became professional, NSU-France took him on as their works driver. The following year, he moved up a step when he became the official Renault-Alpine driver, winning eight rallies and finishing 2nd in the French National Rallying Championship. In 1968, he continued his rallying activities with Renault, and also competed in a few circuit races in Formula France. He won at Albi.
From 1969-1971, Gérard Larrousse was a member of the Porsche Rally Team, especially in the Sport Prototype group. He obtained numerous victories and was much respected for the eclecticism of his driving. Notable wins included the Tour de Corse, the Sebring 12 Hours in 1969 and the Nürburgring 1000 km in 1971. He also raced at the wheel of a BMW in Tourist Car Racing and took part in hill climbs in a Chevron.
1972 was a transitional period in his career. He was the Bonnier works driver in Prototypes and drove for Ford-Cologne in the Tourism category. The next important stage in Gérard Larrousse's career began in 1973 when he signed a two-year contract with Matra. He won the Le Mans 24 Hours twice in a row with Henri Pescarolo. In all, he won eight races counting for the constructors' world championship title. At the same time he began managing a racing team in 1973, the Archambaud-Switzerland outfit which took part in 2-litre proto races.
It was while he was with that team that he entered Alpine-Renaults for the 1974 European 2-litre championship. He was working full time by then at Renault, and in 1975, Larrousse paired up with Jean-Pierre Jabouille to score Renault's first Turbo victory at the Mugello 1000 km. He continued as team manager of the Elf-Switzerland team but in the Formula 2 championship. Gérard took part in a full F2 season and scored a victory at Hockenheim.
In 1976, Gérard Larrousse was appointed the Renault competitions director and ended his career as a racing driver. October 31st, 1984, Larrousse resigned from his post and took on the responsibility of the Ligier F1 programme.

UNCLE TOM'S PAGODA



IT'S VERY DIFFICULT TO GET INTO THE CLOSED JAPANESE GROUP C RACING CIRCLE. THE FIRST PROBLEM TO FACE UP TO IS THE LANGUAGE BARRIER, AND SECONDLY AN "INTRUDER" IS ALWAYS SUSPECT, WHICH IS NORMAL IN VIEW OF THE GROWING IMPORTANCE OF THIS CATEGORY FOR THE JAPANESE TEAMS. NEVERTHELESS WE WERE WELCOMED, AND MOST WARMLY.

If you should happen to be in a country where written communication is based on unfamiliar and incomprehensible signs, a good piece of advice to follow — especially if you don't have your own means of transport — is to stick close by familiar faces when in the aforementioned country.

You have to take a little bus to get to and from the Fuji circuit from your hotel. This is no easy feat when you're surrounded by dozens of people not wishing to move at the same time as yourself. The ideal solution is to pick out a familiar face on the circuit and preferably someone with their own car. Your best bet lies with the Formula 2 drivers, who know the terrain like the backs of their hands. I was extremely fortunate in that after Thursday's practice session, I bumped into the Swede Elgh, and he offered to give me a lift back to my hotel at Gotemba. *"Gotemba! That's where our team's based, how would you like to visit the premises?"* How could I refuse? No way! especially as I knew that Elgh was driving one of the three new Toyotas — the Tom's, one of the best Jap teams. We drove through a maze of twisting and turning roads and finally

TOYOTA 84 C

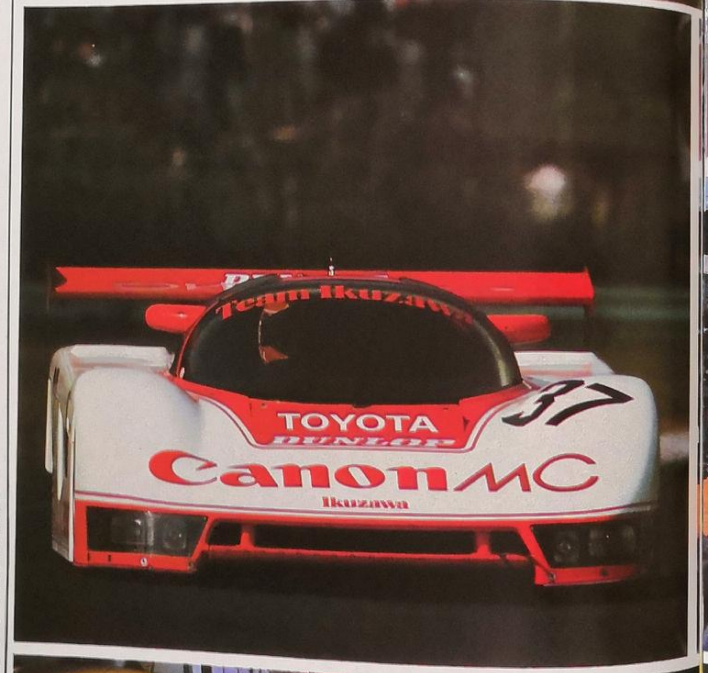
Design: Dome Company
Construction: Tom's
Chassis: monocoque
Engine: type 4 TG (2090cc X 1.4, ie 2926cc).
4 cylinders, 2 valves per cylinder, twin turbos.
500 bhp at 8000 rpm
Torque: 50 mKilos at 5500 rpm
Injection: Mechanical Nippon Denso EF1
Dimensions: Length: 4.506 m
Width: 1.980 m
Height: 1.025 m
Front track: 1.620 m
Rear track: 1.540 m
Wheelbase: 2.600 m
Fuel tank capacity: 100 litres
Weight: 850 kilos
Transmission: Triple Borg & Beck disc, 5-speed Hewland DG Z gearbox.
Brakes: Ventilated Lockheed discs.
Suspension: Front — double outboard wishbone, rear — double wishbone.

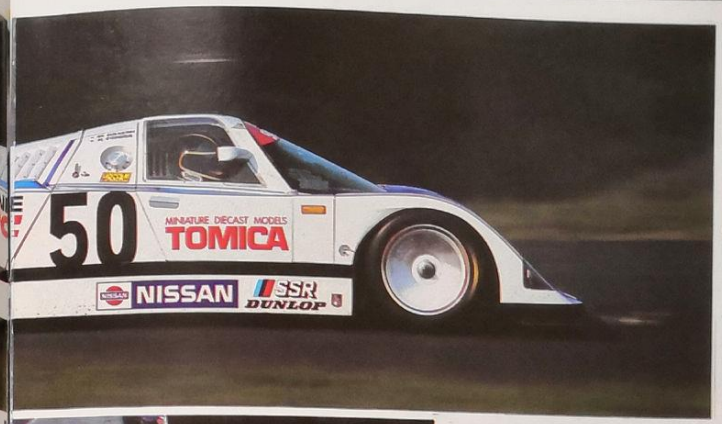
NISSAN LM 04 C

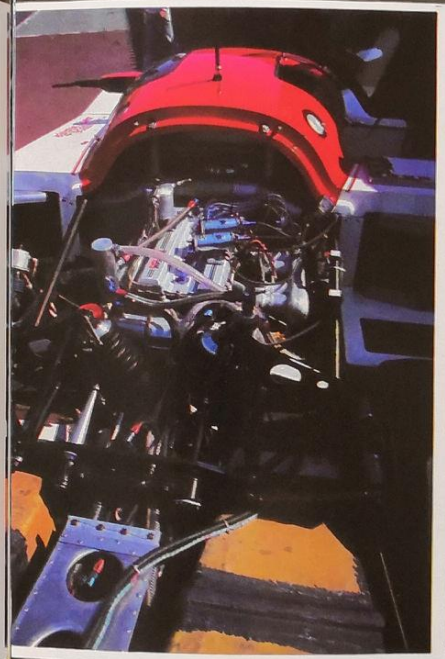
Project design and construction: Le Mans Company (Tokyo)
Chassis: Monocoque
Engine: Type LZ 20 B (2089cc X 1.4, ie 2916cc)
Four cylinders in line, with single turbo
520 bhp at 7500 rpm
Torque: 55 mKilos at 6800 rpm
Injection: Lucas mechanical
Dimensions: Length: 4.695 m
Width: 1.990 m
Height: 1.030 m
Front track: 1.620 m
Rear track: 1.550 m
Wheelbase: 2.665 m
Fuel tank capacity: 100 litres
Weight: 875 kilos
Transmission: Triple Borg & Beck disc
Brakes: Ventilated Lockheed discs
Suspension: Front — double wishbone, Koni shock absorbers; rear — upper rocker, Koni shock absorbers.

Comparisons, comparisons

As the layout of the circuit had been changed since last year's edition, no direct comparisons could be drawn between last year's and this year's results. As a point of reference, however, Bellof's fastest lap time last year was 1m10.02s and this year, he put in 1m17.49s — a 7.47s increase. Using this time as a reference, the Lotec's fastest lap time went up by 7.22s, the best Toyota by 7.20s and Facetti's Alba, by 7.13s. The (unofficial) improvement record goes to the Nissan — it only needed an extra 2.15s to negotiate the new chicane compared with last year's record established by its fastest stable mate (1m22.01s/1m19.86s). However, last year's cars needed a great deal more time than Bellof, this year, to complete a lap — the Nissan-March required an extra 7.78s whereas the Fairlaidy conceded 8.86s — the biggest increase came from the Toyota 83, with an extra 10.54s. Are the drivers responsible or the cars?
The best-placed Japanese car, like last year, was in 7th position. Toyota put in 9 laps more this year than last, and was ten laps behind the least performing of the 956 brigade. Last remark, the average speed went down from 198.069 kph/ 123.793 mph to 181.208 kph to 113.255 mph.







Top:
The four-cylinder turbo was at Mount Fuji while we await the twin-turbo Nissan engine. The factory show much interest in the Nissan LM 04 C.

Left:
The 2-litre twin turbo four-cylinder Dome Toyota 04 C. Not that far now from the Porsche 956.

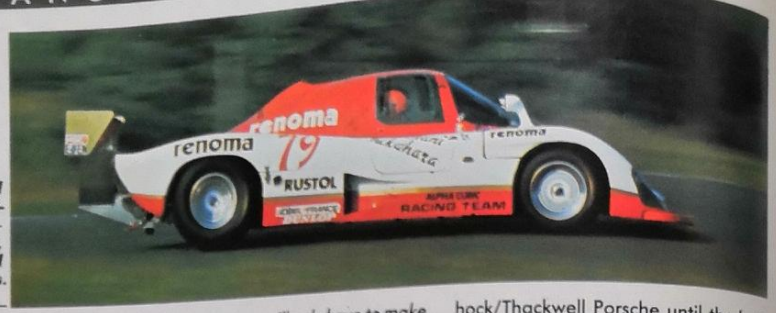
Below:
The long-awaited classical rotary Mazda fitted with twin Hitachi turbos. The engine put out 550 bhp and, for its debut, was mounted in a March 84G chassis.

arrived in the countryside. There, in the middle of the fields, was a huge windowless building — a landmark for Toyota owners.

We were greeted by Mr Tachi (the T from Tom's) who, without losing a minute, explained that this was a private set-up, designed to promote Toyota in endurance. *"Dome are behind the project and have been producing Group Cs powered by Japanese engines. Dome are also carrying out a feasibility study on the possibility of using a Cosworth engine. These cars have been raced since the 1979 edition of the Le Mans 24 Hours. We have completed the theoretical stage, and the construction takes place on our premises. We are equipped with all the necessary tools and machines in order to carry out the machining and assembly work ourselves. This year, we have constructed four cars, as Testu Ikuzawa and Uchida Racing (the official name for the Dome racing car), also wanted to enter one of the new 84 Cs. As we had to provide a spare car for the spare parts, we began producing a limited series. Twelve people were put onto the project, out of our total work force of thirty two."*

It's quite surprising that these people have managed to get themselves so well organised. Toyota are keeping a close watch on their enterprise and help to finance their operations from time to time. *"The 84 C costs 30 million Yens (approx £120,000), and on top of that the cost of engine development has to be included,"* Mr Tachi explained — his office has just been taken over by Tiff Needell and Rupert Keegan who have been hired on at Ikusawa and Dome for the race. After this introduction, the guided visit of the premises commenced. It goes without saying that everything was in meticulous and painstaking order. Everything had been cleverly thought out beforehand, from the canteen to the test bench. There were three 84 Cs waiting in a vast hall with a bare chassis to finish off the picture.

A little further along, there was a Group B style Starlet up on trestles, with its "innards" open. Several points became a little clearer. *"Group C racing is the best known category abroad because it is such a prestigious event. Over here, we work a great deal on our private customers' cars competing in the national championships. In fact, our group is basically an accessory firm supplying transformation kits to increase the engine size of all Toyota models. We have offices in Tokyo and the workshop here, at a stone's throw from the circuit."* Our visit ended in the show room where exhausts, steering wheels and rims were on show with promotional paraphernalia such as umbrellas, jackets and different types of helmets.
One question springs to mind. A great deal of money has been invested into this project. Why? Are Tom's Toyotas coming over to Europe?
"Over here in Japan, Le Mans is something that we all dream about. For the



MCS? An old reconditioned 2-litre sports — featuring BMW, Mazda and Toyota engines.

time being, we can only compare our results with Porsche — the best in the game. To conclude, for the moment, our engines are not so powerful. We'll have to be patient before we can start setting our sights up a little higher. But I hope that we'll soon be going over to Europe." Le Mans? *"1985 is possible, but in order to do so, we'll have to achieve a minimum of results first. We've had three retirements out of the three races we've competed in. However, we remain optimistic because the 84 C is at its debuts. From the fuel consumption point of view, I know that we are competitive and I hope that for 1000 km races we'll only have to make four fuel stops, which will make up for some of the time that is lost out on the track. There's not much you can do with 500 — 530 bhp when you're up against Porsche or Lancia. It's not true to say that we just race at home. Last year, in March, we went to the IMSA Riverside 6 Hours with an 83 C model. That was our first outing where we could draw comparisons. The field was varied and included a 962 (on its maiden race), Fords, Marches and Lolas."* During the 1000 km round at Fuji, the Toyota 84 Cs revealed themselves to be very much in for the fight. They tailed the Winkelhock/Thackwell Porsche until the halfway point. Two of them were forced to retire, the remaining car came in 7th and was the first local car home (the Lotec came in 6th, but is basically German). I don't know if Tom's will decide to enter the Le Mans race next June, but if they do, it will certainly mark a turning point in Group C. If they continue working as they are and continue to make steady progress, perhaps the threat for Porsche will come from Japan. Good bye for now then, Mr Tachi and Mr Oiwa (the O in Tom's) and we hope to see you and your smartly turned out cars soon. ■

Team by team

Honda having forsaken Group C for the F1 circuits, there were four other big Japanese constructors taking part in the race. Mazda, Nissan and Datsun had all brought new material with them — a sign that the Tokyo boys are planning for the future? As a result, there was a larger entry list which included the familiar '83 models. As the European machines had not been modified since Spa or Imola (save the tyres in some cases), there follows here a 'team by team' report of the Japanese makes only.

MAZDA

Debut of the turbo rotary engine in a March 85G chassis. The power unit is still the 138, it is fed by twin Hitachi HT-20 turbos developing an impressive 550 bhp at 8000 rpm. The whole car is still in the experimental stage. It was completed only three weeks prior to the race, lack of time being the reason behind choosing a March chassis rather than redesigning an entirely new car. Despite numerous testing sessions, no definite conclusions can be drawn as the turbos were playing up. It also appears that, when full boost pressure is applied, the engine develops an alarming thirst. Tereda/Kennedy's 727 C was equipped with a new electronic unit developed by Nippon Denso, the EGI, perhaps for comparative purposes. The March was running on Bridgestone rubber and the 727 on Japanese Dunlops. The Mazda speed outfit have changed their colours since the Le Mans outing — the car is now liveried in white and yellow, with a silver rear portion. A third Mazda was entered by a private team — an old 717 C with 727 C bodywork. There was no electronic injection. There was a handful of RX 7s in the GTX and GTO categories of which one (the No 138 driven by Kazama/Tsatumi/Ogura) stood out with its Lotus-Elan shape, looking like some Group 5 car from the 1976-81 period.

TOYOTA

An impressive four-car armada including three exceptionally well-designed Domes. The four cars found themselves on the same grid for the first time this season, as they had made their debut appearances at various rounds. The "Toyota Dome 84 Cs" now have a mission — beat the 956s as soon as possible. Tom's racing obtained pole position with their entry at the first round of the Japanese championship and during the third round of the WEC, Elgh and Needell led the field during 80 laps until a rim went. The cars were engined by a "small" 2-litre block and supercharged by twin turbos (a single turbo in 1983), producing some 500 bhp from the engine. As in previous years, the three cars were using different tyre manufacturers' products — the No 37 (the Ikuzawa team) and the pink and white car sporting No 38 (Elgh/Sekya) were on Dunlops. The maroon and grey No 36 was on Bridgestones. The No 35, a type 83 C version, was racing in its familiar livery but with a crew which, until now, had only had experience of Mazda RX7s.

DOME

The only 3.9-litre Ford-Cosworth engine in the race. The chassis had been seen at Le Mans in June, where it crashed. Nothing had been modified.

NISSAN

There were many cars, but nothing very new to boast of. The most important point being the integration of the Group C programme into the newly-established company, Nismo, who are going to group the entire Nissan competitions departments together. The director, Masaru Kodaira, declared that he was hoping to equip the Nissans with the new type FJ 20 engines (4-cylinders, 16 valves, twin turbos) as soon as possible but, until then, the 2916cc type LZ 20 B (4-cylinders, single Garrett turbo), producing just over 520 bhp, would continue to power the cars. Three different chassis can accommodate these engines, including the Hoshino March 83G, the best '83 Japanese entry. The old front-engined Skyline has now been replaced by the LM 04 C — the chassis being the development of the Fairlaidy Z which is still there, even if sponsors and drivers have changed over the past year. Two LM 04s were constructed, and one of them (Hasemi's No 50) was backed by the factory. The cars could be distinguished by their different air inlets at the rear. As with the Toyota clan, there were differing opinions concerning the choice of tyres — Dunlops were preferred by the Fairlaidy and the LM 04 C sporting Tomica's colours, whilst the Hoshino March and the green and white LM 04 C, No 25, were both on Bridgestone rubber.

There were no new cars in the C2 category. The Lotec has to be mentioned however; Kurt Loterschmidt, the German constructor delivered a newer 1984 version for this year's edition, and the Nagasaka/Suzuki pair had no trouble in obtaining their group victory. The M1 power unit was used.

The MCS is a revised and reconditioned version of the 2-litre sports. The preparative work was carried out by Takaya Yura, chairman of the Moon Craft Society — hence the MCS. There were two BMW engines, one Mazda and a Toyota. As for the tyres, again, some were on Bridgestones and the others on Dunlops — they all looked very alike, but they could be easily distinguished from each other on closer inspection.

MOUNT FUJI 1000 KM

7th round of the Constructors' World Endurance Championship and 9th round of the Drivers' Championship.
Date: September 30th 1984.
Circuit length: 4.410 km (2.75 miles).
Race length: 277 laps or 1,001.07 km (625.66 miles).
Weather: Fine for both qualifying and the race.
Attendance: 100,000 over the three-day period, and 80,000 on the Sunday.
Entries: 43, scrutineered: 36, qualified: 36, classified: 21, retirements: 12, non-classified: 3.

STARTING GRID

No 2 Bellof/Watson Porsche 956 1m17.49s	No 1 Ickx/Mass Porsche 956 1m18.40s
No 60 Stuck/Schuppan Porsche 956 1m18.46s	No 7 Pescarolo/Johansson Porsche 956 1m18.62s
No 14 Palmer/Lammers Porsche 956 1m19.26s	No 10 Winkelhock/Thackwell Porsche 956 1m20.09s
No 38 Elgh/Sekiya Toyota 84 C 1m20.70s	No 36 Matsumoto/Nakjima Toyota 84 C 1m20.84s
No 30 Hoshino/Hagiwara March 83 G-Nissan 1m21.07s	No 50 Hasemi/Tohira Nissan LM 04 C 1m22.01s
No 3 Lloyd/Ickx Porsche 956 1m22.35s	No 37 Needell/Weaver Toyota 84 C 1m22.86s
No 20 Yanagida/Wada Fairlaidy Z Nissan 1m22.99s	No 16 Oguchi/Yoneyama Porsche 956 1m23.35s
No 29 Keegan/Suzuki Dome RC 83 Ford 1m23.48s	No 17 Katayama/Yorino March 84G-Mazda 1m24.15s
No 35 Misaki/Hoshino/Mogi Toyota 83 C 1m24.16s	No 26 Suzuki/Nakago Nissan LM 04 C 1m24.50s
No 80 Finotto/Facetti/ Sebastiani Alba Giannini 1m25.27s	No 131 Kendall/Cook Lola T 600-Chevrolet 1m26.03s
No 84 Nagasaka/Suzuki Lotec M1C-BMW 1m26.27s	No 86 Terada/Kennedy Mazda 727 C 1m27.01s
No 85 Okada/Shimizu/ Tsutumi Mazda 727 C 1m28.04s	No 81 Copelli/Dacco/ Vanoli Alba-Giannini 1m28.07s
No 82 Gellini/Barberio Alba Ford 1m28.07s	No 83 Shimegi/Lida/Sakamoto MCS 83 C-Mazda 1m28.68s
No 79 Totani/Takahara MCS 83 C-BMW 1m29.31s	No 67 Busby/Halsmer Lola T 616-Mazda 1m31.19s
No 68 Quester/Knoop Lola T 616-Mazda 1m31.77s	No 78 Iwaki/Nakamura/Tosa MCS 83 C-Toyota 1m32.20s
No 74 Sawada/Okamoto MCS 83 C-BMW 1m32.50s	No 99 Rossifer/Colonna/Heger Tiga GC 284-Ford turbo 1m33.26s
No 138 Kazama/Tatsumi/O- gura Mazda RX 7-845 1m33.69s	No 145 Hitomi/Koma Toyota Celica 1m36.69s
No 135 Morimoto/Okada/ Shimigishi Mazda RX 7-254 1m37.00s	No 137 Sugai-Sugai Mazda RX 7-254 1m41.35s

GROUPE C2 FIA TROPHY

1. Alba (Giannini)	88 points
2. Lola (Mazda)	67 points
3. Tiga Ford	50 points
4. Gebhardt (BMW)	34 points
5. Rondeau Ford) and Alba (Ford)	30 points
7. Lotec (BMW)	20 points
8. Ecosse (Ford) and MCS (Mazda)	15 points
10. Mazda	14 points
11. Lola (Ford)	12 points
13. Sthemo (BMW) and MCS (BMW)	6 points

RACE LEADERS

Laps 1 - 37 : Bellof/Watson
Lap 38 : Palmer/Lammers
Laps 39 - 73 : Bellof/Watson
Lap 74 : Ickx/Mass
Laps 75 - 227 (finish) : Bellof/Watson

PREVIOUS WINNERS

1982 : Ickx/Mass (Porsche 956)
1983 : Bell/Bellof (Porsche 956)

CONSTRUCTORS' CHAMPIONSHIP

1. Porsche	140 points
2. Lancia	37 points
3. Alba (Giannini) 12 points	
4. Alba (Ford)	8 points
5. Tiga (Ford) and Lotec (BMW)	6 points
7. Rondeau (Ford)	6 points
8. Lola (Mazda) and Toyota	4 points
10. MCS (Mazda)	3 points
11. BMW	2 points
12. Ecosse (Ford and Lola (Chevrolet)	1 point

FOR THE RECORD

First 1984 world championship event for Toyota, Nissan, Lotec, MCS and the Mazda turbo engine • The Kremer Porsche was running on Bridgestone rubber whereas Stuck/Schuppan's 956 was on Japanese Dunlops • John Watson obtained his first world endurance championship victory • Mike Thackwell was at the wheel of a Porsche 956 • Over half the entries were non-Europeans • Porsche, Ford, Chevrolet, Nissan, Mazda, Toyota, BMW and Giannini engines were all at the start • A GTP finished in the points • Toyota, Lotec and MCS chalked up their first points in the '84 championship • Stuck was racing for a Japanese team • Two-lap rolling start and two pace cars • Some photographers were allowed onto the track side —out of bounds since the 1977 F1 GP and the Villeneuve/Peterson accident • Three drivers bore the same surname (A., K. and T. Suzuki).

PITSTOPS AND MAIN RETIREMENTS

Lap 2 : **Terada** (Mazda) broken throttle pedal
Lap 7 : **Nagako** (**Nissan LM 04C**) **tangle with Mazda** No 85
Lap 10 : **Hagiwara** (March-Nissan) turbo change
Lap 13 : **Rossiter** (Tiga) front axle problems
Lap 20 : **Wada** (Nissan-Fairlady) suspension problems
Lap 25 : **Hasemi** (Nissan LM 04 C) brakes
Lap 27 : Retirement of the Nissan Fairlaidy.
Lap 32 : **Facetti** (Alba) lost rear cover
Lap 31 : Retirement of the **March-Nissan** (engine)
Lap 35 : First fuel stop (**Stuck**)
Lap 49 : Retirement of the **Nissan** LM 04 C No 26
Lap 50 : Retirement of the Porsche No 16 (georbox)
Lap 70 : Retirement of the **Tiga** (front wheel coming off)
Lap 72 : Second fuel stop (**Stuck**)
Lap 80 : Retirement of the **MCS-BMW** No 79 (transmission)
Lap 87 : **Palmer** (changed front chassis section)
Lap 102 : Retirement of the **MCS-Toyota** (after leaving circuit)
Laps 103 : **Alba-Ford** (off)
Lap 103 : **Mass** (tyre peeled off)
Laps 105-11 : Pace car out on circuit
Lap 118 : Third fuel stop (**Stuck**)
Lap 118 : Retirement of the **Toyota 84 C** No 37 (engine failure)
Lap 130 : **Ickx** black-flagged, went out again after making a pitstop
Lap 138 : Retirement of the **Toyota 84 C** No 36 (electrical problems)
Lap 154 : **Katayama** (March-Mazda) turbo change
Lap 176 : **Bellof** (engine reving problems)
Lap 198 : Retirement of the **Alba-Giannini** No 81 (off)
Lap 210 : **Katayama** (March-Mazda) turbo change
Lap 215 : **Palmer** (changed front wishbone)

DRIVERS' CHAMPIONSHIP

1. **Bellof : 119 points** - 2. Mass : 116 points - 4. Ickx : 89 points -4. Pescarolo : 75 points - 5. Bell : 71 points - 6. Palmer and Lammers : 63 points - 8. Stuck : 54 points -9. Hobbs : 51 points -10. Brun : 49 points - 11. Keegan : 42 points - 12. Grohs : 36 points - 13. Ludwig : 35 points -14. Baldi : 28 points - 15. Schornstein, Larrauri, Sigala and Watson : 26 points - 19. Fouché and Schuppan : 24 points -21. Barilla : 22 points - 22*. Konrad : 21 points - 23 : Boutsen and Sutherland : 18 points - 25. "Winter" and Merl : 17 points - 27. Winkelhock : 16 points - 28. Nannini, Rondeau, Paul and von Bayern : 15 points - 32. Dacco, Coppelli and Regout : 14 points - 35. Edwards and Van der Merwe : 12 points - 37. Johansson, Martin, Akin, Barberio*, Vitelli* and Gellini* : 10 points - 43. Facetti, Finotto, Surer, Thackwell, Nagasaka*, K. Suzuki* and Sebent : 8 points - 50. Spice : 7 points - 51. Bellm, Jarier, Jones, Baker*, Rossiter*, Lockhart* and Laessing : 6 points - 58. Schimegl-Lida*, Sakamato*, Busby, Knoop, Winther and Jensen (Lars-Viggo) : 5 points - 65. Yver, de Dryver, Gabbiani, Elgh and Sekiya : 4 points - 70. Wollek, Wilds, Crang, Senna, Grand, Katayama and Morton : 3 points.
*Pending official results.

GROUP B FIA TROPHY

1. BMW	100 points
2. Porsche	52 points

RESULTS

1. (**1st Group C**) **Bellof/Watson** (**Porsche 956**) **1,001.07 km** (**625.66 miles**) **in 5 hours 30m 00s at an average speed of 181.208 kph** (**113.25 mph**) 2. Ickx/Mass (Porsche 956) 32s - 3. Schuppan/Stuck (Porsche 956) 2 laps - 4. Pescarolo/Johansson (Porsche 956) 4 laps -5. Thackwell/Winkelhock (Porsche 956) 10 laps - **6.** (**1st Group C2**) **Nagasaka/Suzuki** (**Lotec-BMW**) **17 laps** - 7. Elgh/Sekiya (Toyota 84 C) à 20 laps - 8. Shimegi-Ilda/Sakamoto (MCS-Mazda) 21 laps - 9. Palmer/Lammers (Porsche 956) 22 laps - 10. Kendall/Cook (Lola-Chevrolet) 25 laps - 11. Quester/Knoop (Lola-Mazda) 28 laps - 12. Misaki/Hoshino/Mogi (Toyota 83 C) 28 laps - 13. Busby/Haismer (Lola-Mazda) 28 laps - 14. Kazama/Tatsumi/Ogura (Mazda RX7) 36 laps - 15. Finotto/Facetti/Sebastiani (Alba-Giannini) 45 laps - 16. Sugai/Sugai (Mazda RX7) 46 laps - 17. Hasemi/Tohira (Nissan LM 04 C) 47 laps - 19. Hiltomi/Koma (Toyota Celica) 48 laps -20. Okada/Shimizu/Tsutsumi (Mazda 727 C) 54 laps - 21. Terada/Kennedy (Mazda 727 C) 61 laps.
Not classified - did not cover required distance for classification :
Katayama/Yorino (Marc-Mazda) covered 153 laps, Morimoto/Okada/Shimogishi (Mazda RX7) covered 96 laps and Lloyd/Ickx (Porsche 956) covered 27 laps.
Fastest race lap : not given.

Design Giulio Lazzotti

MAGĒIA

Diffusione : Logman Holdings Italia S.p.A.
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PEUGEOT 205 TURBO 16

THE AFRICAN LIONS

HIGH ON THE KENYAN PLATEAUX, A NEW RACE OF LIONS HAS BEEN SPOTTED. THE USUAL ROAR HAS GIVEN WAY TO THE WHISPERED POWER OF A TURBOCHARGER. WHAT? TURBOCHARGED ANIMALS? EUROPEAN INFLUENCES ON THE AFRICAN CONTINENT HAVE NEVER QUITE BEEN SO RADICAL.

All journalists who regularly follow the Safari Rally in Kenya are familiar with the broken, bumpy and rutted Dar es Salam and Kampala roads in the Nairobi suburbs — they both lead to the Nissan, Fiat and Peugeot garages. A hazardous and unavoidable prelude to the Safari in April, is to weave your way along them through the teetering trucks and the overladen bush taxis — I wasn't expecting it to be that bad in October. Through the gate into Marshalls, the Peugeot importer, down a long lane and as we turned right, we were suddenly hit by the homely sight of opened service vehicles, piles of tyres and mechanics carefully carrying out their work on the insides of the rally cars.
French is the appropriate lingo and the cars are also French. There are three Peugeot 205 Turbo 16s — the *"latest weapons"* in rallying. They are about to commence their first African testing session. Peugeot Talbot Sport went to Kenya, five months prior to the Safari Rally to carry out preliminary preparatory tests.

"We already know the '85 route," explained Jacques Levacher. *"We are going to cover the entire rally with two cars, the third hasn't been prepared for the African terrain, and is available for journalists. The rally is divided into three legs, as usual. We expect to cover each leg in three days — so in all, our testing programme should last nine days."*

Peugeot haven't come to Africa for a holiday — far from it — they have got between 280 and 470 miles of tracks on their schedule per day.

"Our aim," Jacques Levacher went on, *"is to determine the reliability of our car and of the mechanical components along the African tracks. If we detect that a certain part is about to go, we won't replace it immediately. In fact, we'll wait until it actually breaks so as to follow its 'evolution'. This way we'll know exactly when to change that part during the rally."*

On Saturday, October 27th, at about noon, the two test cars left their stables at Marshalls and took the road to Mombasa. Trouble struck after only a few miles — oil was spurting out of the clutch on Nicolas' car. Jean-Pierre was forced to double back to Taita Hills Lodge, along the Nairobi-Mombasa main road, so that repairs could be carried out. On the other hand, Ari Vatanen covered the 280-mile stint without experiencing any problems.

"We aren't using notes, and I'm having to drive carefully as it has rained a lot recently. The four-wheel-drive makes it very easy getting out of the muddy stretches. The actual driving is extremely tiring as you feel the steering wheel reacting to the terrain when you

No secrets

The ultra-quick success of the Peugot 205 has astonished all and sundry in the world of rallying. The car is well built, but the quality of the team behind its success is very important. For example, every single part of the 205 Turbo 16 is numbered. All the parts which constitute each of the cars is catalogued. The book is regularly up-dated when parts are replaced, and the mileage of each part is also recorded giving details of when and where.

The Peugeot team

Peugeot Sport Talbot sent three 205 Turbo 16s over to Kenya — the C2, C3 and the C4.
The C2 was driven by Jean-Pierre Nicolas at the Corsican round. It was fitted with the gravel surface suspension seen at the San Remo and was to be used by journalists. The C3 and the C4 were both raced at the Acropolis Rally and were reconditioned for the Safari. They were to be used for the actual Rally testing programme. The cars were flown over with a dozen or so tons of replacement material.
Michelin TRX M5 and M9 tyres were fitted (16/66). J4s (15/65) were also available. Jacques Levacher explained — *"We haven't come here to carry out tyre tests; the Michelin technicians are standing by in case we encounter any tyre problems."*
Peugeot men at Kenya included Jean Todt, in charge of organising the back-up teams, André de Cortanze and Jean-Claude Vaucard, the engineers, the engine-man, Daniel Bredel, Doctor Duby, together with a team of ten mechanics and three local boys to guide the service crew.
The service vehicles were hired in Kenya. Peugeot Talbot Sport were using six Nissan or Toyota vans and five Peugeot pick-ups. One of the pick-ups was used to back up the journalists' vehicle. Another was used to transport replacement body parts and sump guards. The mechanics were divided into three teams with two vans each and a pick-up.

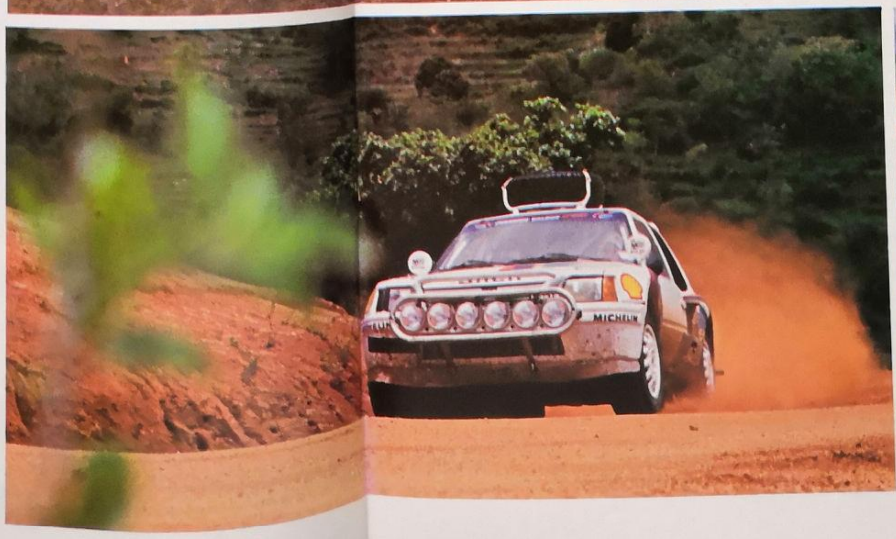
One of the spare wheels is placed above the engine.

There is an exhaust safety valve for the crossing of fords and rivers.

An extra fuel tank has been fitted under the engine protection bar.

The jumbo-size bumper fitted with a headlamp washer.

JPN and Charley Pasquier pretending to be strong — don't be mistaken, it's all made out of kevlar!



drive along 'corrugated' sections. I find that I have to grip the steering wheel really hard to keep the car straight."

The Peugeot technicians came up against this problem at the Acropolis Rally. The Peugeot Talbot team then faced a spate of problems concerning the back-up vehicles, all in a delapidated state and continually breaking down or having punctures. For the Toyota van, the jets repeatedly blocked up and a blown con-rod put the Nissan truck out of action. Other repair work had to be completed before the drivers began their second day of testing — Taita Hills to Mombasa and back.

The rallymen saw this setback differently — Ari Vatanen, the early bird, prefers working in the morning whereas Jean-Pierre Nicolas told his co-driver Charley Pasquier, *"Just wake me up when it's time to leave, please."*

The next incident occurred on the way to Mombasa — a suspension wishbone snapped in an enormous pot-hole, followed by Vatanen breaking a transmission shaft and then losing fifth gear. Much to our surprise, the Peugeot Talbot Sport technicians were neither surprised nor disappointed but, delighted! *"That's why we came here — to suss out the weak points,"* André de Cortanze commented. *"These are only minor problems which are easy to remedy. We already knew about the fifth gear trouble and we have strengthened it on the new gearboxes. Ari's car was fitted with the old type of gearbox. It just proves that we were right in changing the construction material."*

Ari Vatanen's comments at Salt Lick Lodge: *"This first leg isn't selective enough. You have to drive hard and fast and you quickly find yourself in fifth, with the needle hovering over the 8000 rpm mark."* As the Peugeots are fitted with high geared boxes this means that they are doing something like 145 mph. *"The trouble with not using notes is that we won't have time to slow down if we suddenly spot a ditch out front."*

Which is exactly what happened the following day, on the way back to Nairobi. The Finn's car went straight into a large pot-hole at over 100 mph. The upper wishbone had broken and the shock absorbers were leaking. Ari pulled his car up onto the side of the road and was joined by Jean-Pierre Nicolas whose shock absorber had also blown under the stress and strain along the rippled tracks.

"That's what we were expecting to happen," the Peugeot men repeated. *"We haven't changed them since the start."*

Nicolas was busy casting an expert eye over Vatanen's car and detected a weakness in the engine mounting. Peugeot Talbot Sport suddenly jumped to attention. Jean-Claude Vaucard and a service team were sent out to repair the damage. It took them an hour and a half to cover the 75 odd miles along the tracks and an hour for the repair work.

An important lesson had been learnt —the engine mounting would have to be reinforced. The mechanical components are put under higher stress than in any of the European rallies. The mounting and anchoring points are the first to go and at an alarming rate. A turbo ducting was also severed on Nicolas' car together with a coil. And then what happened? Who can say exactly —perhaps a hose went or was it oil on the turbo? Anyway, at the start of the famous Machakos portion, Ari Vatanen and Terry Harryman's Peugeot 205 Turbo 16 suddenly burst into flames and was entirely consumed.

The Peugeot team faced with such a serious setback, finally decided to continue with their programme using just one car with Vatanen and Harryman inside.

Jean Todt had this typically philosophical comment to make — *"Our first results and our first wins might have gone to our heads. In fact it's a lesson to remind us that luck is an important part of motor sport. It's something we were all aware of. It's a shame that it was made only too clear in such a stupid and costly way."*

We will know in five months' time whether Peugeot's trials and tribulations in order to win the African round will be fruitful. *"These testing conditions are so difficult and hard on the mechanics that it has been profitable for us. We will be able to improve on reliability for the whole of the Safari and for all the other rallies,"* a spokesman for Peugeot concluded.

Peugeot and promotion

The larger constructors don't simply take part in rallies for the fun of it, but to promote their vehicles and improve their image. Peugeot is no exception to the rule. On the contrary. On this trip the journalists had absolutely nothing to complain about (apart from sunburn) and we were thoroughly spoilt. Peugeot's press service has always made our job as easy as possible for us in recent World Championship events.

There have been press conferences both before and after each round, a motor home was provided for the various press services, equipped with telephones and infotec. It was also possible to get in touch with the motorhome when out on the stages to find out the latest results and news. News reached the motorhome from a Peugeot team who followed every step of the rally, namely, Jean-François Bouzanquet and Jean-Claude Lefebvre. The press were also provided with cars fitted with radios (since the San Remo Rally) to keep them informed on all the latest developments. Peugeot are hoping to provide a helicopter service for the photographers... What more could you want! Five people selected by the press teams at Peugeot (against one — if that — by the other constructors) are there to ensure other functions described by Corrado Provera, the Peugeot Press Manager, as *"(our) policy of being continuously present to constantly provide up-to-date news."*

Jean-Pierre Nicolas driving through the Taita Hills.

The cars are stripped down to their bare essentials.

The 205 Turbo 16 in its Safari version

This version weighs 135 kilos more (total unladen weight of 1,125 kilos) than the cars seen at the San Remo Rally. In view of the African terrain this seems quite reasonable. The main difference in weights is due to extra reinforcing and a heavier guage sump guard.

The Safari version of the Turbo 16 can be recognised visually by its aluminium anti-zebra bars at the front. High pressure headlamp washers have been fitted on to it. One of the two spare wheels is placed on the roof and the other over the engine. The usual location under the front cover is now used to lodge an extra fuel tank bringing the total fuel capacity of the three tanks on the Safari version of the 205 Turbo 16 to 175 litres. The Safari organisers normally include a clause in the regulations to allow a higher fuel capacity than the usual FISA 110-litre limit.

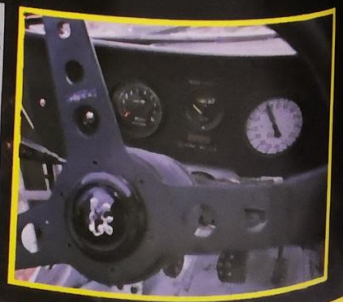
The car doesn't appear to be particularly high off the ground although it is 20 mm higher than the San Remo car, i.e., the same as the Acropolis cars. The gearbox has higher gearing which means that a top speed of 230 kph/143 mph can be reached.

Special care has been taken over the sealing of the various components. The electric housing and the ignition parts have been placed higher, and the clutch has been made watertight. Jean-Pierre Nicolas underwent some testing in Europe and drove through a 3-foot deep ford without the engine cutting off. He just got a wet behind!

Further modifications will undoubtedly be made following the mock rally tests in Kenya.

The rear suspension with double wishbones.

The spare wheel is tucked away under the bonnet.



The rev counter and oil and turbo pressure dials are well positioned.

ENGINE

Type: XU8T
Position: Transverse engine placed centrally to the rear. Engine inclined at 20° to the rear.
Number of cylinders: 4
Engine size: 1775cc
Bore and stroke: 83mm x 82mm
Compression ratio: 7
Turbocharger: KKK
Boost pressure: 0.9 bars
Intercooler: air/air + air/water
Horsepower: 280 bhp at 7500 bhp
Maximum torque (mKilos Din): 40 at 5000 rpm
Maximum revs: 8000 rpm
Cylinder head: Light alloy
Valves: 4 per cylinder
Cylinder block: Light alloy
Crankshaft: 5 bearings, forged steel.
Camshaft: 2, steel-forged, belt driven.
Injection: Bosch K Jetronic.
Ignition: AEI Thomson
Alternator: Three-phased 1400 watts
Lubrication: Dry sump
Water radiator: Aluminium

DIMENSIONS

Wheelbase: 2.540 m
Length: 3.825 m
Width: 1.674 m
Rims: 390 mm, magnesium
Tyres: TRX Michelin
Front: 20/59 x 390
Rear: 23/59 x 390
Weight: 990 kilos
Fuel tank capacity: 110 litres

SUSPENSION

Front: Double wishbone with combined spring/shock absorber unit.
Rear: as for front.

STEERING

Type: Rack and pinion
Number of turns from lock to lock: 2.5

BRAKES

Hydraulically operated.
Circuits: 2 independent rear and front circuits with dashboard control knob to operate brake pressure limiting valve.
Type: AP ventilated discs with 4-piston calipers.

TRANSMISSION

Clutch: Ventilated diaphragm clutch bi-disc, cerometallic clutch plate lining, hydraulically operated
Gearbox: 5-speed type TJ
Limited slip: Ferguson
Rear axle: Hypoid
Final drive ratio ratio: 9/35
Limited slip: ZF
Front axle: Hypoid
Final drive ratio ratio: 9/35
Limited slip: ZF
Transversal transmissions
Maximum speed:
207 kph/129 mph at 8000 rpm

SEATS FOUR IN COMFORT. LEAVES THE REST STANDING.

It's not every day four adults can travel together in a luxury car capable of over 130 mph.

But then, this is no every day car.

The new Monza GSE is an altogether rarer beast; a modern Grand Tourer.

As such a title implies, the lusty 3-litre, fuel-injected, 180 bhp engine doesn't pull any punches.

From rest, 60 mph can be attained in a mere 8.2 seconds.

Coping with acceleration like this calls for proper road-hugging, ultra low profile tyres.

In poor conditions, it also calls for a limited slip differential to improve traction.

Equally advanced is our optional ABS anti-lock braking system.

It ensures you'll stay on the straight and narrow even under the severest braking.

The Monza GSE is also well-served in the gearbox department.

Our 5-speed manual transmission is as responsive as any you could wish for.

While the new 4-speed automatic now enjoys improved acceleration in the lower gears and an additional overdrive gear for more economical high speed cruising.

For an out and out performance car, the interior of the Monza also leaves nothing to be desired.

Up front there are plush Recaro seats. Beyond them, an impressive LCD instrument panel and 7 function trip computer.

And above, a sliding, tiltable sunroof.

The windows and mirrors are electrically operated. Power steering and central locking are also at your command.

At speed, wind and engine noise are notable only by their absence.

The cost of travelling in such grace and refinement on the Queen's highway? £13,801. Hardly a King's ransom, all things considered.

BACKED BY THE WORLDWIDE RESOURCES OF GENERAL MOTORS

MONZA GSE.

Better. By Design.

PERFORMANCE FIGURES FOR 5-SPEED MANUAL FROM MOTOR MAGAZINE. PRICE CORRECT AT TIME OF GOING TO PRESS, INCLUDES CAR TAX AND VAT. DELIVERY AND NUMBER PLATES ARE EXTRA. ABS IS OPTIONAL AT EXTRA COST. 4-SPEED AUTOMATIC TRANSMISSION AVAILABLE AT NO EXTRA COST. DOT FUEL CONSUMPTION TESTS MPG (LITRES/100 KM) FOR 3.0i COUPÉ GSE (4-SPEED AUTOMATIC): CONSTANT 56 MPH 39.2 (7.2), URBAN CYCLE 19.3 (14.6), CONSTANT 75 MPH 30.7 (9.2).

IVORY COAST RALLY

AUDI TRIUMPH IN AFRICA

AUDI SCORED THEIR FIRST WIN ON THE AFRICAN CONTINENT AND GAVE THE QUATTRO SPORT ITS FIRST VICTORY ON A WORLD CHAMPIONSHIP ROUND. COUPLED WITH THE CONFIRMATION OF A ONE-TWO PLACING IN THE DRIVERS' CHAMPIONSHIP FOLLOWING THEIR CONSTRUCTORS' TITLE, THE IVORY COAST RALLY WAS AN OUTRIGHT SUCCESS FOR THE H.B. AUDI TEAM...

The news spread round like wildfire at the Abidjan start, *"The road between TC 11 and TC 12 is under several feet of water."* For the experienced drivers, this was no scoop, but a joke — you have to take the boat to get across from TC 11 to TC 12! However, the rumour was an indication that something was amiss at the 16th edition of the Ivory Coast Rally. The rainy season was dragging on and on. The rallymen returned from their recce stints with alarming reports as to the state of the roads — impossible to drive along this portion, and that portion had become horrendously dangerous. Ambrosino admitted that he had spent four days going over the first leg which was only planned to last fifteen hours on the event. Blomqvist came to a halt twice in mud pits, the second time, the mud was so deep, that neither he nor Cederberg could open the doors of their car.

The Tai Forest section was uppermost in everybody's minds as no-one had had time to practice through it. More and more alarming reports concerning the driving conditions were coming in every minute.

Yet another particularly violent storm broke out just after the Abidjan start, but it wasn't long before the dust made its appearance. Africa just wouldn't be Africa without the dust. Mud or no mud, the Audi "fleet" lost no time in getting down to business.

As predicted, Audi led their Ivory Coast rivals from the start of the rally to the finish. It was a superb team effort, with Blomqvist in command from the first control to the last and Mikkola following in his trail (it was initially decided that the Quattro Sport stay ahead of the normal Quattro). Both cars had a trouble-free rally, apart from a leaking hydraulic pipe and a suspension going on Mikkola's car.

Cars and men

Audi didn't have much opposition at the Ivory Coast Rally. The Peugeot 205 Turbo 16s were a very much regretted ingredient — the rally lacked in spice. Peugeot had pulled out of the rally in order to begin preliminary testing for the 1985 Safari in Kenya.

The only person to give Blomqvist or Mikkola an inkling of doubt as to their supremacy, was Shekhar Mehta, driving a Nissan 240 RS, the spare car from the Safari last year. His car had been prepared in Japan, and a Japanese back-up team were there at the ready — the big boss himself had even come along for the show, (he is considering entering a works Nissan team for next year). Mehta had entered the car himself.

Another adversary for the Audis to reckon with was Alain Ambrosino, from the Ivory Coast, his Opel Manta 400 lent by the factory. Other prominent locals included Samir Assef, the '83 Ivory Coast champion, at the wheel of a Mitsubishi Lancer Turbo and Eugene Salim in an identical car.

David Horsey had come from Kenya with his much-to-be-admired Pick-up, a Peugeot 504. Van Hecke from Zaire was also present in a Samba. He, like Horsey, was hoping to pick up a few points for the African Rally Championship title.

Not much competition, then, for the small Audi armada: Blomqvist had been given a Quattro Sport for the occasion, while Mikkola had to make do with the normal version. Roland Gumbert, the Audi team manager had come over-prepared, as it turned out, to the Ivory Coast rally. There were two planes, one for the radio, and the other to warn the drivers of any oncoming vehicles during the day stages. A team of mechanics and a lorry had made the trip over from Germany and Michèle Mouton was to drive the rapid service car. Audi had come to win!

There were sixty four cars entered for the rally, fifty one at scrutineering and 50 at the start. Just the figure needed for the Ivory Coast Rally to be included in next year's World Rally Championship.

At the first time control — TC 0, there were 50 cars, 48 at TC 1 (asphalt, at an average speed of 25 mph), 27 at TC 2, after the first gravel section, and only 14 teams were still running at TC 3 once the first tough portion was over. The men were quickly sorted from the boys!

A CINCH FOR QUATRO

The service crews had a relaxing rally for a change and only carried out routine wheel changes, refuelling and water and oil checks. They also changed a few parts as a matter of course.

The pace soon slowed to resemble a procession along the African tracks. During the last leg at San Pedro, Arne Hertz told us that he'd stopped reading his notes out to Mikkola — *"In the car we were telling each other stories."* Mikkola's *"No problem,"* on the one hand and Blomqvist's *"Slowly but surely"*, on the other, made the rally all the more torpid, but the Tai Forest almost caught the Quattro rallymen out. The Audi duo got lost but were fortunate in finding the tracks relatively quickly. They had built up a comfortable lead, which they were able to keep. In fact they were even luckier in that a tree crashed down onto the right road just after they had gone by, blocking it off completely. What would have happened if it had fallen behind them while they were on some dead-end path? Some people have all the luck...

The first section between Alepe and Yakass which had daunted a number of competitors, proved to be especially tricky due to the wet and muddy driving conditions. Dust was another problem...

Stig Blomqvist was the first man to reach Bondoukou and was presented with a bouquet of flowers by the local chieftans. The fourteen remaining cars were welcomed home by huge cheering crowds, musicians and dansers. The two Audis had encountered no problems. *"It's a difficult rally, but there are no real problems,"* declared Blomqvist. Hannu Mikkola echoed his team-mate and his Audi service crew with *"No problems!"* At that point, Blomqvist was leading Mikkola by five minutes and was fifty minutes ahead of Ambrosino in third position.

Ambrosino tried every trick in the book to keep Mehta at bay. Although thwarted in his efforts, his 4th place gave him the Ivory Coast national title.

Oh dear! Mikkola's suspension has just packed up, and there's another 40 miles to go before the service point...

The rhythm set by the leading trio was anything but fast — Blomqvist, at a left turn, had had time to put on his indicator, and the co-drivers, Cederberg and Hertz had even got out of their cars when they came across a river flowing over the road to see how deep it was!

Alain Ambrosino and Shekhar Mehta however, were providing all the excitement behind. Ambrosino had caught and then passed Mehta before they got to Akoupé (TC 4) only to have Mehta get by him in the village, before he was slowed down at the following TC at Arrah. The Nissan's ventilator belt had jumped out of place and Mehta spent a while untightening the alternator to put the belt back. As if that wasn't enough, his glasses fell off while he had his nose burried in the engine and the frames broke!

Benohouin's service crew watched on as a matter of course, the belt took twenty minutes to be fitted back into place. Meanwhile, Ambrosino had run off ahead while Mehta was also complaining about his front suspension being too soft.

Samir Assef at the wheel of the Mitsubishi Lancer Turbo was having trouble with his engine coughing. He crossed over a few wires here and there and the engine regained its normal running composure. Shorter after, though, he had a puncture.

Eugene Selim was driving the other Mitsubishi and drove hard into a mountain torrent damaging the front right suspension and the steering, about thirty miles from Boudoukou. His repairs to the Japanese car outside Boudoukou took an hour and a half.

Some good news was awaiting the competitors at the Boudoukou halt — TC 5 up to Tiedo had been cancelled. Everyone had to use the asphalt roads and they would have fifteen minutes in which their service crews could work on the cars. The return journey to Yamoussoukro from Boudoukou was relatively easy going despite the dust. Blomqvist and Mikkola as per usual came out with their *"No problems"* and their five minute gap had been maintained up to Kamoussoukro.

The now it's your turn, now it's mine, duel between Ambrosino and Mehta still hadn't been sorted out. The object of the game was to get off first so as not to have to follow the other's dust trail. Mehta was ready to clock in at TC 9 before Ambrosino but they both were too early, so Ambrosino had the privilege of restarting first.

Twelve cars were at the start from the President Hotel for the section between Yamoussoukro and Daloa. The 281-mile portion turned out to be a mere formality for the Audi Quattro drivers. Blomqvist held on to his five minute lead from team-mate Mikkola and enthusiastic crowds were waiting to greet them and their followers. The Audi mechanics once again carried out their routine checks and changes on the well-performing German cars and topped them up for the next start.
Ambrosino and Mehta were still hard at continually overtaking each other which they did throughout the night, in spite of thick dust clouds being thrown up. Mehta got Bouaffle's service crew to fit his car with harder front suspension but the Nissan kept banging down hard over the bumpy road surfaces.
One of the numerous Mehta/Ambrosino duels could have finished in disaster. Mehta decided he wouldn't spend as much time as planned at the Daloa TC. He began to overtake Ambrosino as he was getting away from his service point and as he did so, he got his wheel into a ditch. By the time he managed to extricate himself, Ambrosino had already clocked in!
When the rally reached Daola, there were eleven cars left, with our pair of furious fighters equal.
The unlucky man of that section was certainly Samir Assef in the Mitsubishi Lancer Turbo. To begin with he made a navigational error and then a front left caliper was torn off. Assef wasted a lot of time plugging the severed brake line, while the service crew replaced the hub. In all, they were set back a whole hour.

CLOSE SHAVE FOR MIKKOLA

Mikkola had a scare on the second section between Daloa and Divo (237 miles). The Finn was some forty miles from Divo when he felt something was not right on the Audi Quattro. When he realised it was the suspension unit that had broken he had no option but to drive carefully and change it. Mikkola made it back and was slowed down thirty minutes in all. Mehta felt some vibrations coming through into the passenger compartment of his Nissan, fortunately it was just mud building up inside the wheels. The famous Mehta/Ambrosino battle had been decided before the rally got to Divo. Ambrosino had gone off in a tight turn, just as he was getting himself out of his predicament, Mehta loomed from behind. He waited for his rival to get past before he continued on his way. Mehta was able to build up a comfortable eight-minute lead thanks to Ambrosino's sense of fair play.
From that point to the finish it seemed that the first four places had been established in chronological order.

ASSEF IS LATE

The standing of the leaders remained unchanged at the first section of the third leg between Yamoussoukro and San Pedro (313 miles). Blomqvist and Mikkola were still in charge of the rally although they admitted to driving at a somewhat leisurely pace. Mikkola had a slight problem with a hydraulic line and the steering but both were quickly repaired and he lost very little time.
Neither Mehta nor Ambrosino came to challenge the leading pair and they followed at their own pace.
The beginning of the end came with this first section for Samir Assef driving the Mitsubishi Lancer Turbo. At the Yamoussoukru start the cylinder head gasket — which he'd gone to collect during the night at Abidjan — had to be changed. In all, the mechanics took one hour and nine minutes, but just two sections on, Assef had another caliper break. Repairs lasted one hour and twenty five minutes this time which meant that Assef checked in at San Pedro a total of three hours and three minutes late. He was three minutes over the maximum penalty allowance which put him out of the rally. The Marlboro driver wasn't to be thwarted and dashed off into the Tai Forest after a (brief) one hour and twenty five-minute stop after San Pedro to get his car serviced. How's that for an example of sheer driving willpower?
Salim missed a time check and he too was out of the rally, nevertheless, he braved onwards on his own, against the remaining pack, home to Abidjan.
Audi continued with their mechanical incident-free cavalcade, but trouble for the Audi assistance team came from up above. The radio-plane was forced to land at San Pedro with low fuel pressure trouble. Repair work was lengthy, so the two stable-mates headed into the Tai Forest with no radio link with their service crew.

APOCALYPSE NIGHT

The dreaded Tai Forest, San Pedro-San Pedro loop (385 miles) along forest tracks via Zro turned out to be less fear-

Teamwork

Both Audi and Nissan needed a plane to follow the rally and serve as a radio link. The two teams collaborated and chartered a plane together for the occasion. In one seat there was a Nissan radio operator and on the other, his opposite number from Audi...

Peugeot "made in Kenya"

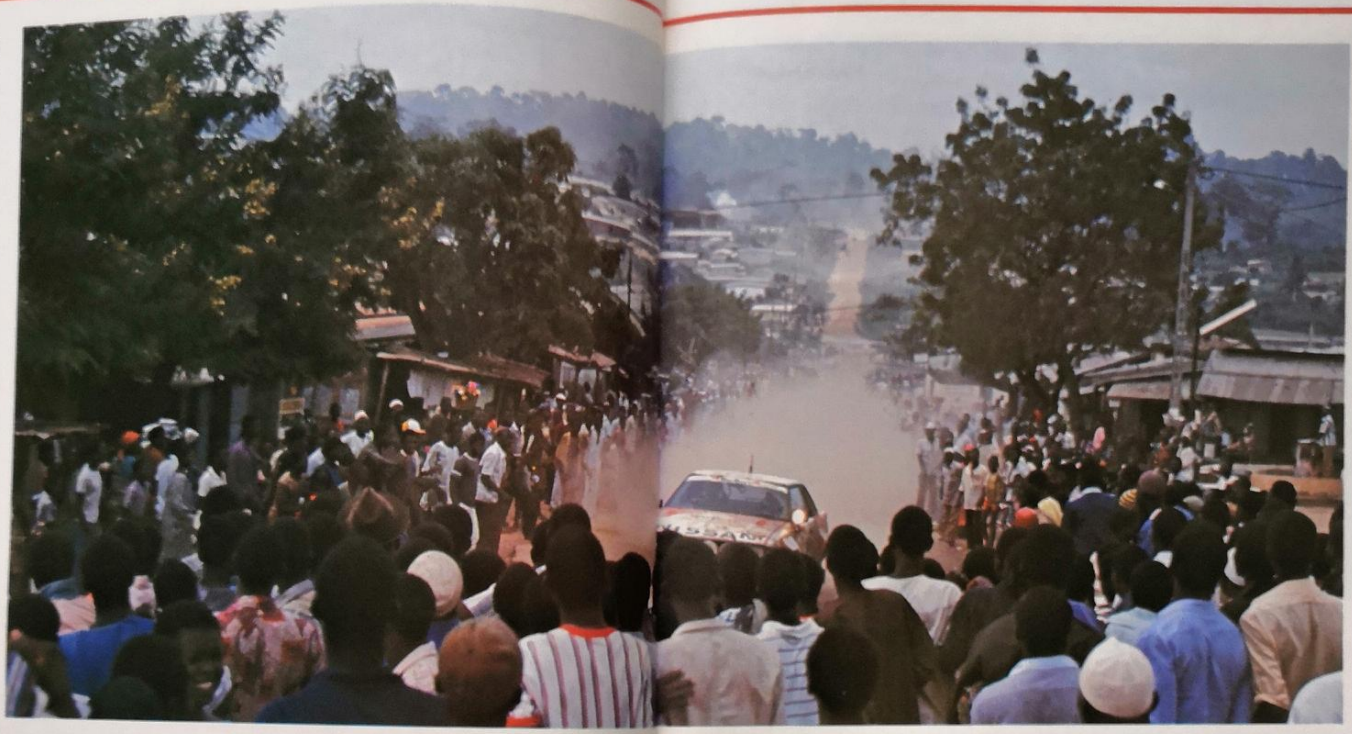
One of the most talked-about cars at scrutineering on the eve of the rally was the Peugeot 504 Pick-up. "Driver of the Year", David Horsey, drove it to an honourable fifth place for this round of the African Rally Championship. The Pick-up was prepared in Kenya, the huge rear loading space being used to transport spare parts and tools. A bit of clever thinking which comes from David's experience in Africa.

The route

1st leg: Abidjan-Yamoussoukro
The start was given at Abidjan and the cars left for the north during the night. Once they arrived at Bondoukou, they had a short rest and came back to the Hotel President (at Yamoussoukro) for their first long halt. (687 miles)

2nd leg: Yamoussoukro-Yamoussoukro
After a day's rest, the rally left Yamoussoukro, Thursday, at midnight for the second leg, a loop, which would bring them back to Yamoussoukro by late afternoon on the Friday via Daloa and Divo. (775 miles)

3rd leg: Yamoussoukro-San Pedro-Abidjan
The third leg began, after another welcome halt, on the Saturday morning. They headed south-east with two visits to the port of San Pedro and an extremely tough loop through the Tai Forest. They began the trip back to Abidjan on Sunday morning (1,103 miles).



The African Rally Champion, David Horsey at the wheel of his Pick-up truck.

Tauziac proved that he wasn't a man to be discouraged easily — he got to Abidjan six hours after Blomqvist crossed the finish line!

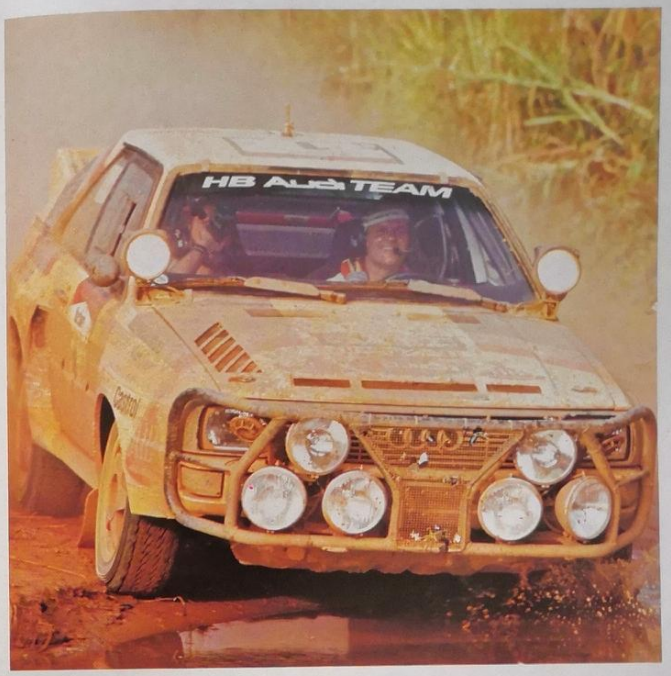
Mehta made it to the end of the Ivory Coast Rally for the second time — in all he has taken part eight times.

Hannu Mikkola and Stig Blomqvist chatting and Sunday driving.

some than expected.
Driving conditions along the tracks were made extremely arduous as a result of heavy rains. The drivers had a hard job of tackling the mud pits, water splashes and trees lying across the road. The rally started to move faster after the Zro TC 44. Blomqvist and Mikkola were using the previous year's road book and lost their way in the forest. The road beared little similarity with last year's. According to Mehta, whose luck and intuition had him stay on the right road, the Audi pair must have been set back between five and ten minutes. Once back on the right route, the two Scandinavians made up for the ground they had lost on Ambrosino and Mehta. The four cars arrived at virtually the same moment at the Grah TC 45, but they were two hours over the time allowed for the loop.
The leaders' positions remained unchanged by a stroke of luck. The cars were in better shape than their weary drivers, who were showing signs of fatigue.
David Horsey was driving the Peugeot 504 Pick-up and completed the loop in four hours and three minutes — he was put out of the race for a measely three minutes. The Kenyan driver's punishment was very severe, he put in a protest and continued on his way.
Eugene Salim (Mitsubishi Lancer Turbo) wasn't lucky in the forest either. A tree came crashing down onto the road just after the four leading cars had got by. Salim could find no way around and had to double back to the last village and get help to get the tree off the road. Molinié (Toyota Celica) and Tauziac (Mitsubishi Colt) were also over the time limit and put out of the race as a result. They had been driving without a road book since Yamoussoukru and Molinié only had one back-up vehicle. They had been on the point of being put out of the race several times, but the Tai Forest proved too much to cope with, Tauziac soldiered on bravely to Abidjan — he got there six hours after the leaders!
The last 412 miles of the final leg between San Pedro and the finish at Abidjan were more of a parade of the surviving cars than anything else. There were no mechanical incidents — the only problem that occurred was that Blomqvist hit an animal for the sixth time
The podium was decorated and waiting for the winners outside the Hotel Ivory with vast crowds milling around. Audi celebrated their first victory on the African continent of a Quattro and their first Quattro Sport win in a World Rally Championship round. The constructors' world championship title had been theirs since the Finnish round, and the drivers' title had been more or less Blomqvist's since San Remo. Mikkola's second place at the Ivory Coast behind his team-mate meant that he moved into second place of the championship.

LONG TALKS

Long heated discussions arose at the finish. Everyone had been given time penalty points for the Tai Forest section despite the maximum time limit being fairly slow. Talks with the marshals and scrutineers lasted all of five hours with drivers being called in as they crossed the finish line to give their opinions. It was decided to cancel the penalties given in the second section of the forest. Two drivers thus found their efforts rewarded for having persevered despite their being way beyond the time limit. David Horsey found himself hoisted up to fifth place which he richly deserved. He had held on to his place since the end of the first leg and amazed one or two people with his 140 bhp Pick-up, *"It's only a 140 bhp, but for me it's like it were a turbo!"* With his fifth placing he is now in hot contention for the African Rally Champion title. He had a one point lead over Mikkola (3rd in Kenya and 2nd in the Ivory Coast for Mikkola, totalling 27 points, compared with 28 for Horsey, who won at Zimbabwe and came in 5th at the Ivory Coast). Horsey has entered the last round of the season to be held in Rwanda, unlike the Finn. The 1983 African "Driver of the Year" was amply rewarded for his efforts and courage by the marshals' decision.
Tauziac's lone crusade to Abidjan, where he arrived six hours after Blomqvist, also had a happy end.
Alain Ambrosino clinched the national title with (another) fourth placing. The local driver had pushed himself to the limit to beat Mehta but he didn't quite manage despite his daring charge.
Only six cars were classified at the Ivory Coast Rally which was undoubtedly the toughest of all previous editions. The drivers said it was even harder than in 1972 when there had been no-one in the offical results. In all fairness, it must be said that the engines had progressed immensely in reliability and robustness, even if the 1984 pace had lost its fret and fume aspect of the previous years. ■



TECHNICAL DATA

26th edition of the Ivory Coast Rally November 1st-5th 1984.
11th round of the World Rally Championship for constructors.
4,122 km (2,576 miles) divided into three stages.
1st leg: Abidjan - Boudoukou - Yamoussoukro (1,114 km/696 miles).
2nd leg: Yamoussoukro - Daloa -Divo - Yamoussoukro (1,242 km/776 miles).
3rd leg: Yamoussoukro - San Pedro - Abidjan (1,766 km/1,103 miles). 55 time controls in all.
Entries: 54. **Starters:** 50. **Finishers:** 7. **Classified:** 6.
Weather: Rain storms at the start, hot and dry for the rest of the rally, with localised showers at the end of the 3rd leg.

IMPORTANT FACTS

Rally:
The rally was made 550 km (343 miles) shorter, and comprised three legs compared with five in 1983.
An effort was made in reorganising the route to make work easier for the service teams.
Cars:
1st African rally victory for the Audi Quattro.
1st world championship win for the Quattro Sport.
Drivers:
Alain Ambrosino had his first race at the wheel of a works-prepared Opel Manta 400.
Shekhar Mehta entered his own car.

RALLY LEADER

TC1 - finish: Blomqvist/Cederberg (Audi Quattro Sport).

FOR THE RECORD

Blomqvist's first African rally win.
Mikkola's second consecutive 2nd placing at the Ivory Coast Rally.
Blomqvist became the drivers' 1984 World Rallying Champion and Mikkola moved into 2nd position of the championship.

MAIN RETIREMENTS

Gachan/Massida (Visa 1000 Pistes). Suspension, TC 7.
Choteau/Claverie (Audi 80 Quattro). Radiator, TC 30.
Salim/Konan (Mitsubishi Lancer Turbo). Did not check in at TC 35.
Asset/Boy (Mitsubishi Lancer Turbo). Cylinder head gasket, brakes, not within time limit at TC 42.
Molinié/Molinié (Toyota Celica). TC 45.

PAST RESULTS

(Last ten editions)
1974 Makkinen/Liddon (Peugeot 504).
1975 Consten/Flocon (Peugeot 504).
1976 Makkinen/Liddon (Peugeot 504).
1977 Cowan/Syer (Mitsubishi Lancer).
1978 Nicolas/Gamet (Peugeot 504 V6).
1979 Mikkola/Hertz (Mercedes).
1980 Waldegaard/Thorszelius (Mercedes).
1981 Salonen/Harjanne (Datsun Violet).
1982 Röhrl/Geistdorfer (Opel Ascona 400).
1983 Waldegaard/Thorszelius (Toyota Turbo).

MAKES' WORLD RALLY CHAMPIONSHIP

(Results after 9 out of 10 rounds — Monte Carlo, Portugal, Safari, Corsica, Acropolis, New Zealand, Argentina, 1000 Lakes and San Remo — the Ivory Coast Rally did not count for the drivers' championship)

| | | |

Hannu Mikkola, Audi Quattro (Hugh Bishop)

THE FINN WITH A MISSION — TO COVER BLOMQ ANY

EVENTUAL ATTACKS THROUGHOUT THE RALLY

Shekhar Mehta, Nissan 240 RS (André Marzoli)

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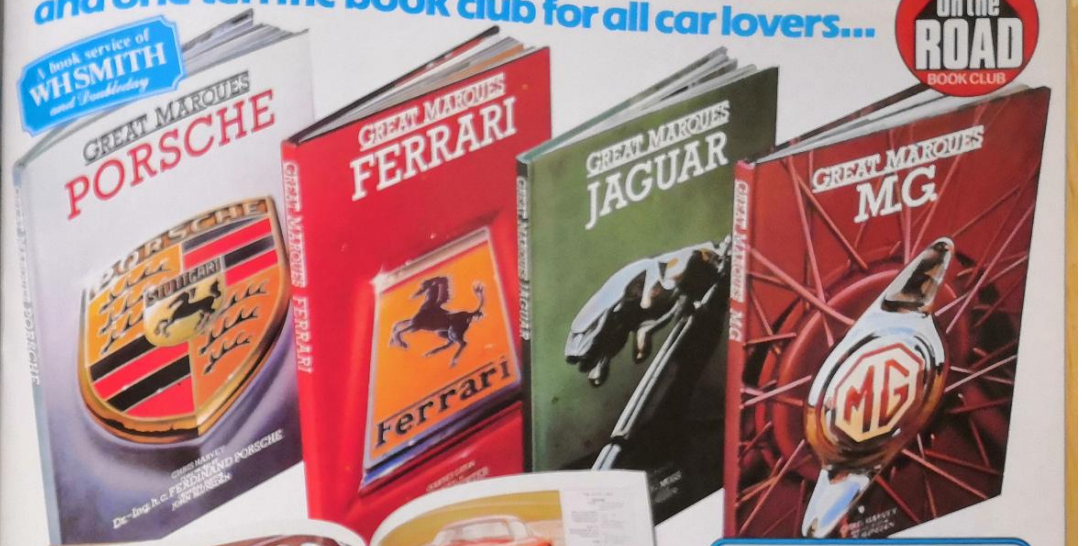

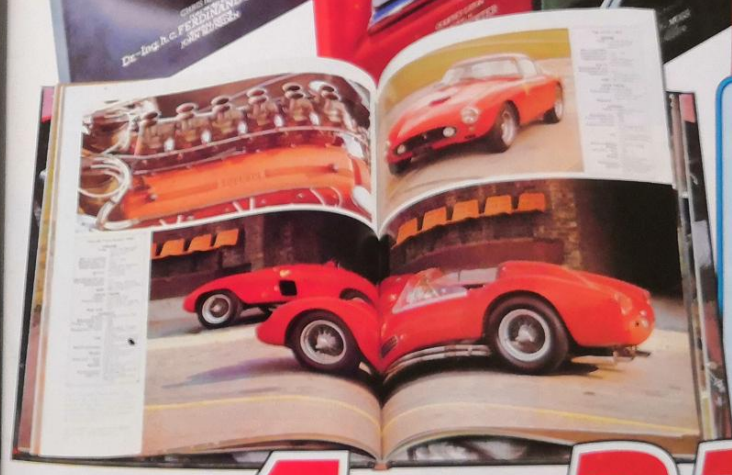

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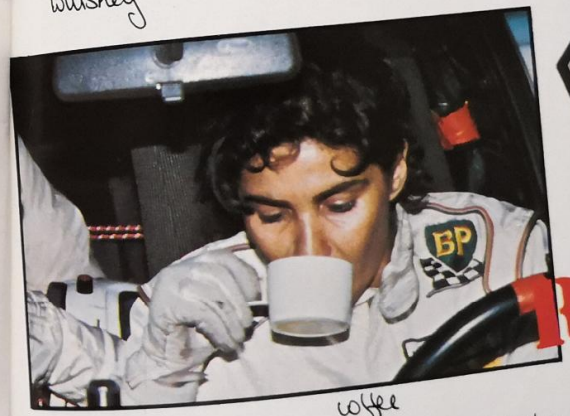

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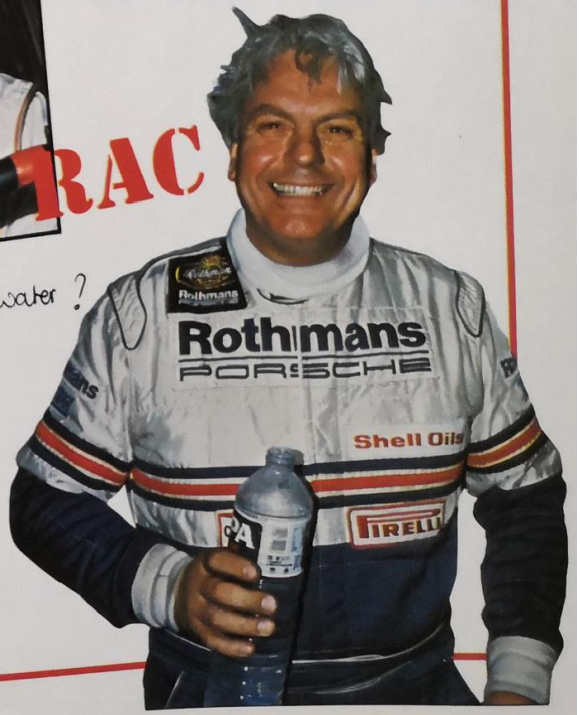


RAC

HIGH TENSION

THE PEUGEOT 205 TURBO 16 COULD HARDLY HAVE HAD A MORE REMARKABLE START TO ITS CAREER — A TOTAL OF THREE WINS OUT OF FIVE ROUNDS IN THE 1984 WORLD RALLYING CHAMPIONSHIP. THE FRENCH CAR'S VICTORY AT THE LOMBARD RAC RALLY WAS, HOWEVER, A LITTLE TOO NARROW FOR COMFORT — BUT A VICTORY ALL THE SAME!

Dolgellau is a quaint town situated in the heart of Wales. Once a year, the daily routine is broken with the arrival of the RAC Rally service crews at five in the morning followed by the cars roaring in. Everyone is always warmly welcomed by the inhabitants.

Thursday, November 29th, 6 am. The weather is exceptionally warm for the time of the year, although Ari Vatanen arrives under a shower of rain at the wheel of his Peugeot 205 Turbo 16. He leaves his car in the park fermé and makes his way to the Royal Ship Hotel where Jean Todt and the whole of the Peugeot Talbot Sport team are waiting. The tall Finn is looking forward to bed and a rest — all of an hour and a half... Jean Todt questions him with his eyes and Ari Vatanen replies *"Yes, I feel happier now..."*

... now that I've regained the lead, is what he meant. Only eight hours earlier, Ari Vatanen had a four-minute lead on his most dangerous rival, Hannu Mikkola. His car went off the road and rolled over landing on the roof. The fair-haired Finn used to be notorious a few years ago for his inexplicable and unexplained *"offs"*. Had his demons come back to haunt him?

"I don't think that I know how to drive slowly. Just as we began the special stages through the Welsh forests, I knew that I had a comfortable lead, I just had to make sure that I kept it. I eased up a little... a mistake. I didn't see the tight bend up ahead until it was too late. The braking area was covered in mud and was really slippery. I wasn't close enough to the apex. I watched myself sliding towards the road-side and onto the grass lining the ditch and then roll over. My reflexes weren't good enough. It's as simple as that."

Ari Vatanen is one of those people who are sure of their sporting talents, sure enough to admit and accept the responsibility of their own mistakes.

"Terry and I then made a second error. We called the spectators over to give us a hand to get the car back on its wheels. We waited several minutes for them to reach us. In fact we could have managed by ourselves, because the terrain was really slippery and it didn't need much of an effort at all. It would only have taken us two minutes."

Then Vatanen adds — *"After that, I had to drive fast, and when I drive fast, I drive safely."*

Ari Vatanen's self acknowledged error in fact pulled the RAC Rally out of the monotony into which it had slipped at the outset — due to the all too obvious domination of the Peugeot 205 Turbo 16 on the one hand and the other four-wheel-drive cars on the other.

Ari Vatanen couldn't have been calmer at the Dolgellau halt. The Peugeot driver would never have believed you if you'd predicted that a broken transmission shaft would alter his plans so radically. In fact, this *"minor"* incident didn't worry the tall blond Scandinavian much — he knew his car was the best.

Peugeot's traditional press conferences which are given both before and after each world rally championship round in which the Turbo 16 is entered, have changed progressively in character. During the first rounds, care was taken not to scare the opponents. The policy which is now adopted is quite the opposite — knock them out! engage with psychological warfare and make them admit to the superiority of the French car!

"Everyone knew that the Peugeot 205 Turbo 16 would be in command of the RAC Rally," Jean Todt declared — and why shouldn't he, after all it's the truth. The Peugeot turned out to be nearly two seconds faster per mile than all the other entries in the parks.

The Finnish/Irish pair's task was made that much easier in that Markku Alen and most of the other redoubtable British forest specialists, like Stig Blomqvist and Henri Toivonen, were not taking part. The Rally was deprived of most of its regular clients and gave us the feeling that this year's edition of the RAC Rally was definitely lacking in spice.

The Audi Quattro Sport, which was to have been driven by Blomqvist, made the Peugeot team's mission that much easier when its entry was withdrawn.

"We have clinched both the constructors' and drivers' titles. We have achieved the objectives we set ourselves for 1984", is all Roland Gumpert would say. *"All we want to do now, is to concentrate on preparing our 1985 season"*, he added.

The constructors finished the rally in the following order: Peugeot, Audi, Toyota, Opel and Nissan. The main battle took place between the Toyotas and the Opel, the advantage slightly in favour of the Japanese cars. Björn Waldegaard got off to an excellent start only to retire due to engine trouble a little later. Juha Kankkunen proved several times that he was the fastest of the two-wheel-drive participants. The happiest man at the end of the day with Ari Vatanen, was undoubtedly Per Eklund, whose last race with Toyota credited him with a magnificent third placing.

"I have no intention of taking part in the 1985 Swedish Rally if I don't have a good car," Per Eklund told us. *"That was probably my last race with Toyota, but I think it was a good one — even if I say so myself."*

Per's main threats for the position of *"First two-wheel-drive"* came not only from team mate Kankkunen, who is staying on at Toyota next season, but from his eternal British rivals Russell Brookes and Jimmy McRae — both on an equal footing for this round. The Manta Boys often showed that they were as good as the Toyotas, despite their power handicap. Per Eklund only got away from them as a result of mishaps on the rally. Brookes and McRae were often neck and neck, either of them could have hoped for a step on the podium — if they hadn't both gone off. Russell Brookes lost three minutes in the event and McRae eight, the former was first local man home and the latter's chances were ruined by cylinder head gasket problems. ■

TEAM BY TEAM

There were a hundred and twenty five cars at the start of the Lombard RAC Rally.

PEUGEOT

There was only one Peugeot 205 Turbo 16 entered for Ari Vatanen and Terry Harryman. It was the same car as at the San Remo Rally. The suspension and shock absorber settings had been adapted for the terrain of the Rally.
Following the recent fires which have affected the Turbo 16, particular care had been taken over the fuel and oil lines. Titeflex metallic braided ducts were used to replace the former ones. The Peugeot was on Michelin Tyres.

AUDI

The German firm took part at the RAC Rally in a semi-official way. Stig Blomqvist, the 1983 winner, was asked by Audi to forfeit his place and only one official Audi was entered for Michèle Mouton and Fabrizia Pons. Blomqvist had driven the same car at the San Remo Rally and the suspension settings hadn't been modified at all. Roland Gumpert admitted himself that the damping rates were far too hard for the RAC.
Roland Gumpert was accompanied at the Rally by six German mechanics and the servicing was in fact provided by David Sutton who managed to obtain a little financial help from the factory. Sutton assisted three Audi teams — Mouton/Pons in the Audi Quattro Sport, Buffum/Wilson in a classical Quattro A2 and Mikkola/Hertz in another Quattro A2 — with which Blomqvist won the previous year's edition and which Mikkola drove throughout the 1984 British Open Championship.
Backed by BBC's Top Gear, Malcolm Wilson and team mate Nigel Harris were present at the wheel of another Quattro. Mouton was on Michelin rubber, Mikkola on Pirelli, Buffum, Good Rich and Wilson, Dunlop — just to make matters easier... The Swede, Ericsson drove his familiar Group A Audi 80 Quattro and was accompanied by fellow country man, Claes Billstam.

TOYOTA

Ove Andersson's Toyota Team Europe always makes a great effort for the RAC Rally. There were three identical Celica Twin Cam Turbos entered for Waldegaard/Thorszelius, Eklund/Whittock and Kankkunen/Gallagher. There were just as few mechanical modifications on these cars as on the Peugeots and Audis. The boost pressure was set at 0.75 which had the Toyota engines developing 360 bhp for 1,040 kilos.
The Japanese constructor is a regular Pirelli client, and for the occasion tried out new G6 gravel tyres, an ultra soft compound for particularly damp or muddy surfaces.
David Mann drove the Group A Toyota Corolla which is usually in the hands of Eklund in the British championship.

NISSAN

There were two official Nissan 249 RSs entered for Salonen/Harjanne and Mehta/Mehta. For Salonen it was his first rally since his back operation last August. The servicing was provided by Bill Blydestein and Bob Freeborough for both cars and for the 240 RS which had been entered by Terry Kaby and Kevin Gormley. The cars are said to develop between 265 and 270 bhp and weigh in at 1,020 kilos. Two other 240 RSs were driven by the young British Junior Team hope, David Llewellin and the Finn Peter Geitel. The Nissans were fitted with Dunlop Japan tyres.

OPEL

Three Group B Opel Manta 400s were entered by GM Dealer Sport for McRae/Nicholson, Brookes/Broad and Fisher/Frazer. The cars develop 270 bhp and weigh 960 kilos. They were on Michelin tyres. Phil Collins was also at the wheel of a Group B Manta 400 and the young Swedish driver, Mats Jonsson was also present in his Ascona 400. Lars-Erik Torph had his familiar Ascona 2000i in Group B, Kenneth Eriksson and Ragnar Spjuth were down in a new Kadett GSI.

ROVER

The British firm, Austin Rover made its comeback to the World Rallying Championship by entering a Group A Rover Vitesse which was driven by Tony Pond with co-driver Rob Arthur. The car appeared to be very similar to the ones entered in Group A on the European circuit championship, the main differences being the servo-assisted steering and a smaller engine size to develop 270 bhp. The red line is situated at 8000 rpm although Tony Pond said that he was shifting gears at only 6000 rpm because *"There's nothing left higher up"*.
The Rover Vitesse weighed in at 1,300 kilos and the tyres were supplied by Dunlop.

MAZDA

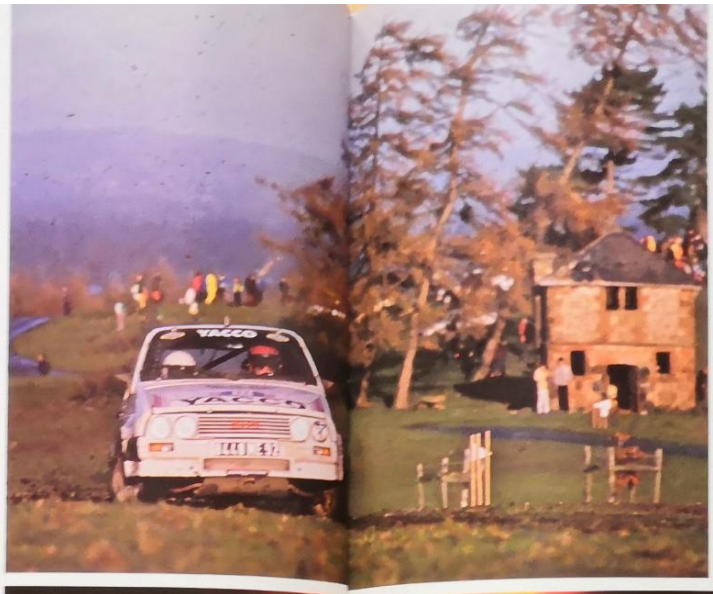
It was the second outing for the Achim Warmbold-prepared Mazda RX7s in the world championship. They produce 300 bhp and weigh 1,000 kilos. They were on Pirelli tyres. The number one car was driven by the Swedes Ingvar Carlsson and Mellander, whereas Philippe Wambergue couldn't believe his luck when he was given Thérier's car to drive.
"There is a lot of power at low revs, the steering is precise — it's a great car to drive." He was assisted by Michel Vial.

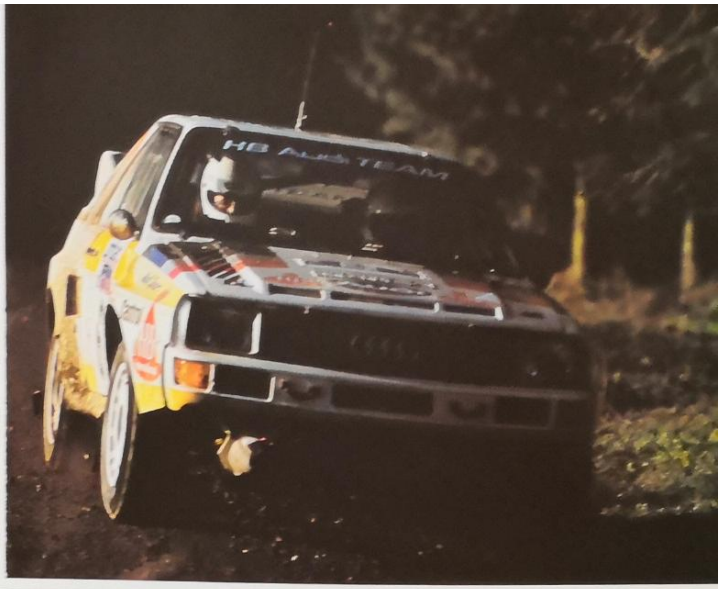
VW

Kalle Grundel and Peter Diekmann were back in their 1800cc Golf GTi developing 170 bhp and weighing in at 800 kilos. The car was fitted with Pirellis.

THE OTHERS

The Rothmans Porsche Rally team entered two splendid Porsche 911 SC RSs for Middle East Champion Saeed Al Hajri and the other for Roger Clark with co-driver Ian Grindrod, at this his comeback to rallying.
There were also three works Group A Skoda 120 LSs, a Citroën Visa 1000 Pistes, driven by young Britisher Mark Lovell, and Frenchman François Chauche had a similar Visa 1000 Pistes for the first time.





THE RACE

The Lombard RAC Rally was divided into three legs, the first taking place on Sunday November 25th. There were very few special stages and seven of them covered a total distance of just over 20 miles. A measley appetizer which meant that the starting order of the second leg could not be established according to the provisional result, as it wasn't long enough.

The first special stage took place in Kowsley Park, near Liverpool. Ari Vatanen wasted no time during the first 4-mile stint in showing he meant business. He led his nearest rival, Russell Brookes, by 9 seconds. The others came in 13 seconds and more after him. All the Audis were slowed down by the windscreen misting up when the route took them through a ford. Hannu Mikkola found himself going off the road as a result of bad visibility, but he managed to keep control of his car. He had got off to a bad start though, because he found himself in 33rd position and 35 seconds behind Vatanen. Tony Pond had worse luck however. He went off after just a mile of the first special stage and his Rover was damaged beyond repair, causing his early retirement.

Vatanen got back into his wicked ways at Chatsworth (SS2) leading the Audis driven by Mikkola, Buffum and Mouton tightly bunched together. Vatanen put in five fastest times out of seven that day. The only chance his opponents got was at Sutton Park (SS4), when he missed a junction and at Oulton Park (SS7), when he unwisely opted for gravel tyres at the start. The standing order at the end of the first leg was Vatanen in the Peugeot, at 25m 55s with Michèle Mouton, 25m 34s, Waldegaard, 25m 38s, Mikkola — who had made a great recovery — 25m 39s and the excellent Kankkunen at 25m 41s, Wilson at 25m 51s — driving very well — and Buffum was at 25m 56s. British drivers, Brookes and McRae were 11 seconds apart. A 39 second lead for Vatanen in the Peugeot after just 20-odd miles meant that he was gaining roughly two seconds a mile on his opponents. Incredible.

The "real" rally began with the second leg. It was 1,506 km (941 miles) long and made up of 447 km (280 miles) of special stages through the Lake District, Scottish, Kielder and Yorkshire forests. The varied terrain did not influence Ari Vatanen's will to excel —he put in the fastest time at five of the seven special stages before the Hawick halt in Scotland. The standing at the end of them was as follows, Vatanen, ahead of Mikkola by 3m 12s and Buffum by 3m 29s. The Audis were again in close formation behind the Peugeot apart from Wilson, who lost at least six minutes when he had to finish the last two special stages with his gearbox jammed in 4th gear.

Things were not looking too good in the Toyota camp though. Kankkunen had a puncture during the 9th special stage. His three-minute stop to carry out the wheel change sent him way down the leaderboard and into 20th position. He managed to fight his way back up into 9th position by Hawick, but Waldegaard had to retire due to engine failure on the 11th special stage, just when he had carved his way through the pack and into an honourable fifth position overall and first of the two-wheel-drive brigade. Jimmy McRae was the man sitting in this especially meritorious position at Hawick after a memorable duel with fellow Britisher, Russell Brookes. McRae beat his rival home by just five seconds despite Brookes having led for most of the way.

Ola Stromberg was leading Group A in his private Saab 99 Turbo and had managed to outdo Grundel, Torph and Ericsson amongst others.

The rally continued on its way through the Kiedler Forest. Chauche was set back five minutes went he went off the road and then found that his starter wouldn't work. Brookes rolled over and wasted five minutes in the process. Michèle Mouton had a puncture, Carlsson also had an off and conceded 18 minutes, but the only notable retirement came from Malcolm Wilson, whose Quattro had let out all its engine oil. Per Eklund was in especially high fighting spirits and came back up into 5th position behind Vatanen, Mikkola and Buffum —who had managed to get past Mouton.

Unlike previous editions, the Kielder Forest did not claim its usual number of victims, and most of the favourites got through without any problem — as they did for the Yorkshire forests and the notorious Dalby Forest through which a 32-mile special stage had to be covered twice. Ari Vatanen made sure he was still in command, just in case any one needed reminding. The first time through — in the dark — he led Mikkola by 42 seconds and McRae by 1m 02s. He then gave a repeat performance and improved his time by over a minute when it was light. Mikkola fought back hard and only lost 33s, but Mouton was left some 1m 17s behind despite her finishing third on the stage.

It was then back to Chester and the end of the second of the three legs. The standing was still Vatanen in the lead, at the wheel of the Peugeot 205 Turbo 16 with the three Audis following in his wake. Hannu Mikkola was the only driver of the German squad to shine, but was nevertheless 4m 02s behind. Michèle Mouton had overtaken Buffum and found herself 12m 02s behind Vatanen and the American driver was exactly 13 minutes behind the leader of the pack. Eklund was sitting tight in fifth position, the first of the two-wheel-drive contingent, 14m 21s behind Vatanen but five seconds were all that separated him from Jimmy McRae's Opel Manta. Kankkunen had fought his way bravely back up into 7th position and at that point was only 1m 27s behind his Toyota team mate. Salonen and Kaby weren't far behind in their Nissans, tailed by Brookes in the Manta 400, feeling as miserable as he had been all day after being mistakenly informed that he had killed a spectator The clear Group A leader was Stromberg, in sensational form. He had a 3m 30s lead on Grundel. François Chauche put in a splendid third equal overall time with Vatanen on SS30 and had a great race up through the field to find himself only 1m 13s behind the young British hopeful, Mark Lovell, in a similar Citroën Visa 1000 Pistes.

The third and final leg through the Welsh forests was 1,242 km (776 miles) long and was made up of 25 special stages over a total of 405km (253 miles). The first stages of the day saw the retirements of Stromberg and Chauche, due to clutch failure and sump engine seizure —caused by a leaking sump. They had been probably the most exciting elements of the rally. Buffum then tucked in hard and notched up to two fastest outright times in quick succession, only to take a wrong turn and head into the forest. The car took over an hour to get back on the right road and the American driver retired. The new Group A leader, Grundel, didn't have much time to enjoy his newly-acquired status. He retired after an off in the 37th stage just when his engine was beginning to make suspicious noises. McRae also went off the road in the same special stage and lost 8 minutes. On stage 39, Michèle Mouton had to stop and change a punctured wheel, losing five minutes. Kankkunen's rally ended when he went violently off in the same forest.

The leaderboard changed as all the names were juggled around and others crossed off. But that was nothing compared with what happened in the 40th special stage. Ari Vatanen rolled over while he was leading the Rally with a four-minute cushion on his nearest rival, Mikkola. Vatanen and Harryman waited for the spectators to come and help them righten their Peugeot back onto its wheels. They lost almost five minutes in the process and dropped back into second position, exactly 40 seconds behind Mikkola. Luckily, for the Peugeot team, Hannu's Audi Quattro then encountered gearbox problems.

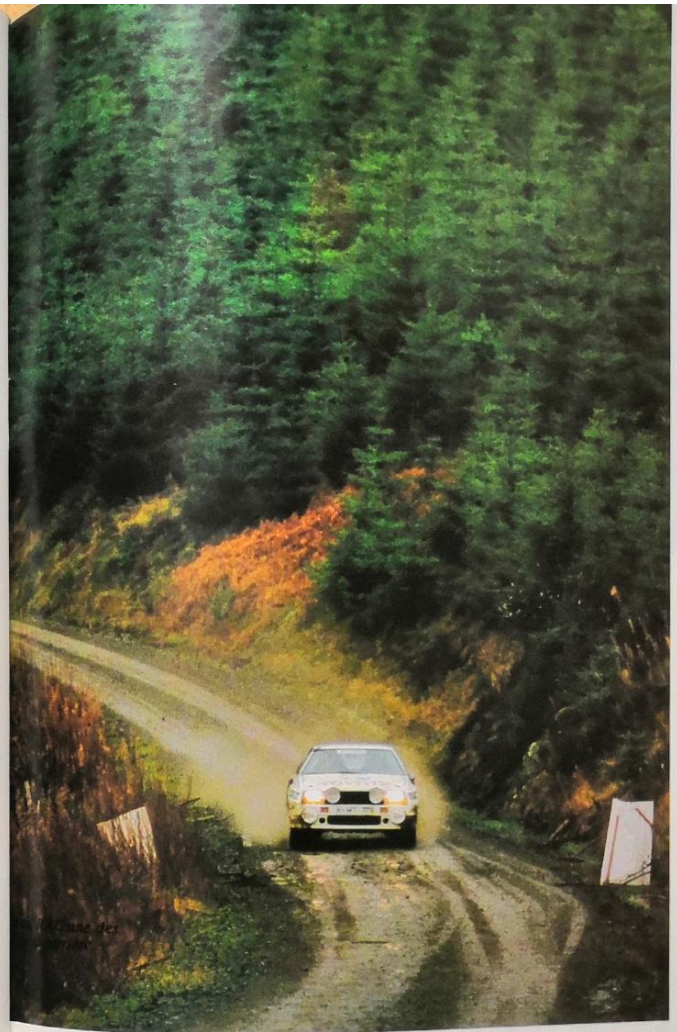
Vatanen took advantage of the fact that the gearbox couldn't be repaired for another four special stages and drove brilliantly to close the gap on Mikkola, to reclaim his lead. He managed so well that at the Dolgellau halt on Thursday morning, at the end of the 48th special stage, the Peugeot driver was leading Mikkola by 1m 29s, a beaming Eklund was 15m 49s behind, nearly two minutes in front of an exhausted Michèle Mouton. Russell Brookes was fifth and had not failed to profit from his opponents problems. Kaby had been put out of the Rally when he missed a passage control after the 39th special stage. He had only conceded 2 minutes to Salonen up to that point ·

The Peugeot team and Vatanen then suffered a few more missed heartbeats when a rear drive shaft blew and Vatanen continued on his way in the *"three-wheel-drive"* through the next special stage. He lost the lead for all of a tiny second in favour of Mikkola. The repairs were quickly accomplished and Vatanen put in the fastest times on all of the remaining six special stages to win the Rally by 41 seconds from Hannu Mikkola. The Lombard RAC Rally had been spared from being entirely boring and monotonous from start to finish, by an exciting nail-biting finish.

Michèle Mouton regained her fighting attack style after the Dolgellau halt, but failed to take third place from Per Eklund by 21seconds.

Brookes was the first local driver home (not the first time!) and finished fifth overall. The first three drivers were followed in by Salonen, McRae, Mehta, Fisher and Mikaël Ericsson, who won the Group A class in the Audi 80 Quattro. Old timer, Roger Clark finished in 11th position after an uneventful rally, ahead of Mark Lovell, some 20 years his junior. The Group N winning car was the Vauxhall Astra, driven by Brian Wiggins.

There were 52 cars at the finish.



SS 1: KNOWSLEY
1. Vatanen-Harryman (Peugeot 205) 4m52s (1st Group B), 2. Brookes-Broad (Manta 400) 5m01s, 3. Kankkunen-Gallagher (Celica) 5m05s, Kaby-Gormley (Nissan 240 RS) 5m05s, 5. Eklund-Whittock (Celica) 5m06s, 6. Wilson-Harris (Audi Quattro) 5m06s, 7. McRae-Nicholson (Manta 400) 5m08s, 8. Mouton-Pons (Audi Quattro) 5m10s, 9. Waldegaard-Thorszelius (Celica) 5m11s, 10. Buffum-Wilson (Audi Quattro) 5m12s, 11. Salonen-Harjanne (Nissan 240 RS) 5m15s, **11. Ericsson-Billstam (Audi Quattro) 5m15s (1st Group A),** 11. Smith-Dytham (Manta 400) 5m15s, 14. Chauche-Barjou (Citroën Visa) 5m17s, 15. Wambergue-Vial (Mazda (RX7) 5m18s, 15. Carlsson-Mellander (Mazda RX7) 5m18s, 15. Clark-Grindrod (Porsche 911) 5m18s, 18. Goodingderry (Chevette) 5m19s, 19. Andervamg-Savage (Ford Escort) 5m20s, 19. Torph-Orwin (Opel Ascona) 5m20s, 19. Fielding-Robinson (Ford Escort) 5m20s, 19. Bannister-Odfield (Ford Escort) 5m20s, 23. Poysti/Leppala (Opel Ascona) 5m21s, 23. Hendrickx-Orrick (Opel Ascona) 5m21s, 25. Grundel-Dickmann (VW Golf GTi) 5m22s, 25. Fischer/Frazer (Manta 400) 5m22s, 25. Sutherland Watts (Ascona 400) 5m22s, 28. Jelley-Cooke (Chevette) 5m23s, 29. Sikamberg/Carlsson (Saab 99) 5m24s, 30. Johnsson-/Johansson (Opel Ascona) 5m25s, 30. Menn-West (Corolla) 5m25s, 30. Gettel-Wood (Nissan 240 RS) 5m25s, 33. Mikkola-Hertz (Audi Quattro) 5m27s, 34. Omba-Kusakabé (Lancer) 5m28s, 35. Collins-Freeman (Manta 400) 5m29s, 35. Wood-Bond (Astra GTE) 5m29s, 35. Molt-Lland (Ford Escort) 5m29s, 38. Lovell-Bavis (Citroën Visa) 5m31s, 39. Metton-Allen (Opel Ascona) 5m32s, 40. Kruger-Tassel (Talbot Lotus) 5m33s, 41. Warkup/Peterson (Lancer) 6m34s, 41. Jordache-Goodrick (Ford Escort) 5m34s, 43. Yamauchi/Yamauchi (Lancer) 5m35s, 44. Midulehurst-Hitchmough (Ford Escort) 5m36s, 44. Saarinen-Lebtonen (Opel Ascona) 5m36s, 46. Donnelly-Halkward (Opel Ascona) 5m37s.

SS 2: CHATSWORTH
Vatanen 4m33s, Mikkola 4m41s, Buffum 4m46s, Mouton 4m49s, Salomen 4m49s, Kankkunen 4m50s, Waldegaard 4m52s, Eklund 4m54s, Stromberg 4m54s, Collins 4m55s.

SS 3: DONINGTON
Vatanen 2m04s, Mouton 2m07s, Mikkola 2m09s, Waldegaard 2m11s, Buffum 2m11s, Wilson 2m12s, McRae 2m13s, Edlund 2m13s, Kankkunen 2m13s, Brookes 2m14s, Carlsson 2m14s.

SS 4: SUTTON PARK
Buffum 4m01s, Mikkola 4m02s, Kankkunen 4m02s, Waldegaard 4m03s, Mouton 4m03s, Vatanen 4m10s, Wilson 4m10s, Brookes 4m11s, Eklund 4m13s, Llewellin 4m13s.

SS 5: WESTON PARK
Vatanen 2m44s, Mouton 2m49s, Waldegaard 2m50s, Mikkola 2m52s, Wilson 2m53s, McRae 2m54s, Kankkunen 2m55s, Eklund 2m57s, Salonen 2m59s, Brookes 2m59s, Buffum 3m01s.

SS 6: TRENTHAM
Vatanen 4m41s, Mikkola 4m42s, Wilson 4m43s, Waldegaard 4m46s, Mouton 4m49s, Kankkunen 4m49s, Buffum 4m53s, Grundel 4m56s, McRae 4m57s, Brookes 5m00s.

SS 7: OULTON PARK
Waldegaard 1m45s, Mikkola 1m46s, Wilson 1m46s, Mouton 1m47s, Kankkunen 1m47s, Brookes 1m48s, Kaby 1m49s, Vatanen 1m51s, McRae 1m51s, Eklund 1m52s, Buffum 1m52s.

STANDING AT THE END OF THE 1ST LEG
1. Vatanen/Harryman (Peugeot 205) 24m55s (1st Group B), 2. Mouton/Pons (Audi Quattro) 25m34s, 3. Waldegaard-/Thorszelius (Celica) 25m38s, 4. Mikkola-/Hertz (Audi Quattro) 25m39s, 5. Kankkunen/Gallagher (Celica) 25m41s, 6. Wilson/Harris (Audi Quattro) 25m51s, 7. Buffum/Wilson (Audi Quattro) 25m56s, 8. Brookes/Broad (Manta 400) 26m09s, 9. McRae/Nicholson (Manta 400) 26m20s, 10. Eklund/Whittock (Celica) 26m23s, 11. Kaby/Gormley (Nissan 240 RS) 26m28s, 12. Salonen/Harjanne (Nissan 240 RS) 26m46s, **13. Grundel/Diekmann (VW Golf GTi) 27m04s (1st Group A),** 13. Carlsson/Mellander (Mazda RX7) 27m04s, 15. Wambergue/Vial (Mazda RX7) 27m10s, 16. Jonsson/Johansson (Opel Ascona) 27m12s, 17. Stromberg/Carlsson (Saab 99) 27m17s, 18. Collins/Freeman (Manta 400) 27m26s, 18. Geitel/Wood (Nissan 240 RS) 27m26s, 20. Chauche/Barjou (Citroën Visa) 27m27s, 21. Fisher/Frazer (Manta 400) 27m30s, 22. Llewellin/Evans (Nissan 240 RS) 27m32s, 23. Clark/Grindrod (Porsche 911) 27m34s, 24. Ericsson/Billstam (Audi Quattro) 27m37s, 25. Mehta/Mehta (Nissan 240 RS) 27m38s, 26. Torph/Oswin (Opel Ascona) 27m45s, 27. Bannister/Oldfield (Ford Escort) 27m50s, 28. Ohba/Kasakabe (Lancer) 27m53s, 29. Fielding/Robinson (Ford Escort) 27m55s, 30. Smith/Dytham (Manta 400) 27m58s.

SS 8: GRIZEDALE SOUTH
Vatanen 7m34s, Mouton 7m42s, Mikkola 7m44s, Wilson 7m48s, Kankkunen 7m50s, Buffum 7m53s, Eklund 7m55s, Waldegaard 7m57s, Torph 8m02s, McRae 8m03s.

SS 9: GRIZELADEN
Mikkola 20m58s, Vatanen 21m02s, Wilson 21m03s, Buffum 21m11s, Mouton 21m12s, Brookes 21m37s, Waldegaard 21m39s, McRae 21m46s, Stromberg 21m50s, Ericsson 21m51s, Wambergue 21m54s, Salonen 22m00s.

SS 10: LOWTHER
Waldegaard 4m05s, Vatanen 4m09s, McRae 4m13s, Brookes 4m15s, Wilson 4m19s, Kaby 4m21s, Stromberg 4m21s, Mouton 4m22s, Kankkunen 4m23s, Salonen 4m24s, Grundel 4m24s, Buffum 4m25s, Chauche 4m27s.

SS 11: KERSHORE
Vatanen 11m05s, Mikkola 11m08s, Buffum 11m23s, Wilson 11m34s, Mouton 11m39s, Eklund 11m40s, Kankkunen 11m42s, McRae 11m46s, Brookes 11m48s, Salonen 11m54s, Wambergue 11m58s, Carlsson 12m05s.

SS 12: CASTLE O'ER
Vatanen 4m54s, Mikkola 4m57s, Wilson 5m05s, Mouton 5m07s, Buffum 5m07s, McRae 5m12s, Eklund 5m12s, Kankkunen 5m12s, Salonen 5m15s, Brookes 5m16s, Carlsson 5m17s, Kaby 5m22s, Collins 5m23s, Wambergue 5m24s.

SS 13: TWIGLEES
Vatanen 11m05s, Mikkola 11m17s, Mouton 11m30s, Kaby 11m32s, Kankkunen 11m41s, Buffum 11m43s, Eklund 11m47s, McRae 11m48s, Brookes 11m54s, Salonen 11m56s.

SS 14: CRAIK
Vatanen 7m44s, Mikkola 7m55s, Eklund 8m11s, Kankkunen 8m14s, McRae 8m18s, Buffum 8m19s, Brookes 8m21s, Salonen 8m27s, Carlsson 8m33s, Mouton 8m34s.

SS 15: OGRE HILL
Vatanen 7m42s, Mikkola 7m46s, Mouton 7m52s, Buffum 7m52s, Eklund 7m53s, Kankkunen 8m00s, Salonen 8m08s, Brookes 8m13s, Kaby 8m14s, McRae 8m18s.

SS 16: REDESDALE
Vatanen 10m02s, Buffum 10m16s, Eklund 10m17s, Mouton 10m20s, Kankkunen 10m26s, Kaby 10m35s, Salonen 10m40s, Brookes 10m42s, McRae 10m42s, Mikkola 10m43s.

SS 17: FALSTONE
Vatanen 15m05s, Buffum 15m18s, Mikkola 15m20s, Mouton 15m39s, Wilson 15m39s, Kankkunen 15m40s, Brookes 15m51s, McRae 15m55s, Salonen 16m00s, Eklund 16m01s.

SS 18: BENSHAUGH
Mikkola 15m02, Vatanen 15m11, Buffum 15m42s, Eklund 15m44s, McRae 15m46s, Mouton 15m57s, Brookes 16m01s, Salonen 16m09, Kankkunen 16m22s, Kaby 16m33s.

SS 19 : WARK
Mikkola 18m21s, Vatanen 18m35s, Eklund 19m00s, Buffum 19m10s, Mouton 19m16s, McRae 19m17s, Salonen 19m38s, Kankkunen 19m43s, Kaby 19m52s, Clark 19m59s, Mehta 20m00s.

SS 20 : HAMSTERLEY
Mikkola 21m22s, Vatanen 21m34s, Buffum 22m13s, Eklund 22m31s, Kankkunen 22m38s, McRae 22m48s, Brookes 22m48s, Kaby 22m50s, Salonen 22m51s, Mouton 23m11s, Stromberg 23m21s, Mehta 23m32s, Grundel 23m34s.

SS 21 : LANGDALE 1
Mikkola 8m20s, Vatanen 8m24s, Kankkunen 8m31s, McRae 8m41s, Mouton 8m41s, Brookes 8m51s, Eklund 8m54s, Buffum 8m54s, Kaby 8m59s, Al Hajri 9m13s.

SS 22: MYKEHAM 1
Vatanen 3m21s, Mikkola 3m24s, Kankkunen 3m32s, Buffum 3m32s, Mouton 3m33s, Eklund 3m37s, McRae 3m38s, Brookes 3m42s, Kaby 3m42s, Salonen 3m44s, Carlsson 3m44s.

SS 23 : DALBY 1
Vatanen 26m16s, Mikkola 26m59s, McRae 27m19s, Kankkunen 27m21s, Eklund 27m41s, Mouton 27m59s, Buffum 28m03s, Salonen 28m23s, Kaby 28m27s, Brookes 28m32s.

SS 24 : PICKERING
Vatanen 7m19s, Eklund 7m32s, McRae 7m33s, Mouton 7m38s, Kankkunen 7m41s, Mikkola 7m45s, Kaby 7m46s, Buffum 7m48s, Salonen 7m51s, Fisher 7m52s.

SS 25 : CROPTON
Vatanen 9m45s, Mikkola 9m51s, Mouton 9m51s, Kankkunen 9m57s, McRae 10m06s, Buffum 10m11s, Fisher 10m19s, Stromberg 10m21s, Salonen 10m22s, Carisson 10m24s.

SS 26 LANGDALE 2
Mikkola 8m05s, Vatanen 8m07s, Mouton 8m22s, Eklund 8m25s, Kankkunen 8m32s, McRae 8m38s, Brookes 8m38s, Salonen 8m44s, Stromberg 8m45s, Kaby 8m48s.

SS 27 : MYKEHAM 2
Mikkola 3m21s, Vatanen 3m24s, Mouton 3m24s, Collins 3m24s, Eklund 3m30s, McRae 3m32s, Kankkunen 3m32s, Salonen 3m33s, Brookes 3m35s, Buffum 3m35s, Kaby 3m37s.

SS 28 : DALBY 2
Vatanen 25m21s, Mikkola 25m55s, Mouton 26m38s, Kankkunen 26m43s, McRae 26m58s, Kaby 27m08s, Brookes 27m11s, Salonen 27m16s, Eklund 27m22s, Buffum 27m35s.

SS 29 : HAREWOOD
Vatanen 2m52s, Mikkola 2m55s, Buffum 2m57s, Kankkunen 2m59s, McRae 3m00s, Salonen 3m03s, Chauche 3m03s, Lord 3m04s, Eklund 3m05s, Brookes 3m06s.

SS 30 : HAIGH HALL
Buffum 3m49s, Mikkola 3m51s, Vatanen 3m52s, Chauche 3m52s, Mouton 3m58s, Salonen 3m58s, McRae 3m59s, Ericsson 3m59s, Torph 4m01s, Stromberg 4m01s.

SS 31 : AINTREE
Vatanen 1m47s, Mouton 1m47s, Kankkunen 1m47s, McRae 1m48s, Eklund 1m49s, Mikkola 1m50s, Kaby 1m50s, Salonen 1m51s, Buffum 1m51s, Brookes 1m52s, Carlsson 1m52s, Clark 1m52s.

STANDING AT THE END OF THE 2ND LEG

1. Vatanen/Harryman (Peugeot 205) 4h40m55s (1st Group B), 2. Mikkola-/Hertz (Audi Quattro) 4m44m58s, 3. Mouton/Pons (Audi Quattro) 4h52m58s, 4. Buffum/Wilson (Audi Quattro) 4h53m56s, 5. Eklund/Whittock (Celica) 4h55m17s, 6. McRae/Nicholson (Manta 400) 4h55m17s, 7. Kankkunen/Gallagher (Celica) 4h56m44s, 8. Salonen/Harjanne (Nissan 240 RS) 5h00m27s, 9. Kaby/Gormley (Nissan 240 RS) 5h01m28s, 10. Brookes/Broad (Manta 400) 5h01m42s, **11. Stromberg-/Carlsson (Saab 99) 5h08m07s (1st Groupe A),** 12. Mehta/Mehta (Nissan 240 RS) 5h09m46s, 13. Fisher/Frazer (Manta 400) 5h10m31s, 14. Collins/Freeman (Manta 400) 5h10m56s, 15. Grundel-/Diekmann (VW Golf GTi) 5h11m45s. 16. Clark/Grindrod (Porsche 911) 5h12m23s, 17. Ericsson/Billstam (Audi Quattro) 5h14m04s, 18. Torph/Oswin (Opel Ascona) 5h16m37s, 19. Smith/Dythman (Manta 400) 5h17m15s, 20. Lovell/Davis (Citroën Visa) 5h19m07s, 21. Chauche/Barjou (Citroën Visa) 5h20m20s, 22. Eriksson/Syperth (Opel Kadett) 5h22m14s, 23. Al Hajri/Spiller (Porsche 911) 5h22m20s, 24. Carlson/Mellanger (Mazda RX7) 5h23m48s, 25. Llewellin/Evans (Nissan 240 RS) 5h27m00s, 26. Goransson/Bjur (Audi Quattro) 5h28m19s, 27. Ohba/Kusakabe (Lancer) 5h31m15s, 28. Hameenniemi/Pikkarai (Opel Ascona) 5h34m41s, 29. Lord/Varley (Audi Quattro) 5h36m16s, 30. Cox/Godden (Opel Manta) 5h38m08s.

SS 32 : LOTON PARK
Mouton 3m21s, Vatanen 3m22s, Mikkola 3m23s, Buffum 3m24s, Salonen 3m29s, McRae 3m30s, Eklund 3m30s, Kankkunen 3m31s, Brookes 3m32s, Kaby 3m32s, Chauche 3m32s.

SS 33 : BURWARTON
Vatanen 5m27s, Mouton 5m27s, Mikkola 5m31s, Buffum 5m35s, Brookes 5m37s, Kankkunen 5m38s, McRae 5m41s, Eklund 5m41s, Salonen 5m44s, Kaby 5m47s, Chauche 5m48s, Ericsson 5m55s, Collins 5m55s.

SS 34 : MAILSCOT
McRae 15m08s, Vatanen 15m12s, Kankkunen 15m15s, Grundel 15m15s, Lovell 15m15s, Mouton 15m18s, Salonen 15m20s, Mikkola 15m22s, Kaby 15m24s, Carlsson 15m29s.

SS 35 : SERRIDGE
Vatanen 8m45s, Mikkola 8m46s, Mouton 8m46s, Kankkunen 8m53s, Buffum 8m54s, McRae 8m55s, Eklund 9m01s, Brookes 9m05s, Salonen 9m06s, Kaby 9m14s.

SS 36 : SPEECH HOUSE
Vatanen 10m57s, Mikkola 11m01s, Mouton 11m06s, Kankkunen 11m08s, Buffum 11m08s, Eklund 11m18s, McRae 11m24s, Kaby 11m25s, Brookes 11m26s, Salonen 11m28s.

SS 37 : MARGAN
Buffum 15m11s, Mikkola 15m27s, Mouton 15m31s, Vatanen 15m36s, Kankkunen 15m43s, Brookes 15m53s, Salonen 15m54s, Kaby 16m02s, Eklund 16m06s.

SS 38 : AFAN ARGOED
Buffum 6m27s, Mouton 6m28s, Vatanen 6m31s, Mikkola 6m33s, Kankkunen 6m41s, Eklund 6m45s, Salonen 6m47s, Brookes 6m47s, Mehta 6m52s, Carlsson 6m56s.

SS 39 : MORGANNWG
Eklund 31m40s, Mikkola 31m42s, Buffum 31m43s, Vatanen 31m56s, Brookes 33m01s, Salonen 33m11s, Carlsson 33m54s, Fisher 33m57s, Torph 34m02s, Mehta 34m08s.

SS 40 : MORGANNWG
Mikkola 32m26s, Eklund 32m56s, Brookes 33m44s, Mouton 34m31s, Salonen 34m36s, Mehta 35m02s, Ericsson 35m05s, Lovell 35m24s, Vatanen 37m12s, Lord 37m14s.

SS 41 : RHEOLA
Vatanen 16m19s, Mikkola 16m36s, Mouton 17m05s, Eklund 17m18s, Salonen 17m33s, Brookes 17m35s, Mehta 17m58s, Ericsson 18m11s, Fisher 18m27s, Lovell 18m29s.

SS 42 : LADY MEGAN
Vatanen 14m03s, Mikkola 14m05s, Eklund 14m41s, Brookes 14m47s, Mouton 14m50s, Salonen 14m51s, McRae 14m54s, Fisher 15m00s, Kaby 15m02s, Collins 15m07s.

SS 43 : BYRGWM
Mouton 5m06s, Vatanen 5m08s, Eklund 5m08s, Brooks 5m16s, Mikkola 5m19s, McRae 5m21s, Salonen 5m23s, Mehta 5m26s, Kaby 5m29s, Llewellin 5m31s, Fisher 5m31s.

SS 44 : TRAWSCOED
Vatanen 14m13s, Mouton 14m19s, Eklund 14m30s, McRae 14m39s, Brooks 14m50s, Fisher 15m01s, Mehta 15m06s, Kaby 15m06s, Lovell 15m12s, Llewellin 15m16s, Ericsson 15m24s, Mikkola 15m28s.

SS 46 : PANTPERTHOG
Mikkola 8m42s, Vatanen 8m45s, Mouton 9m05s, Eklund 9m08s, Brookes 9m12s, McRae 9m27s, Salonen 9m27s, Mehta 9m39s, Clark 9m41s, Fisher 9m42s, Lovell 9m50s.

SS 47 : DYFI 1
Vatanen 11m20s, Mikkola 11m24s, Eklund 11m50s, Mouton 11m51s, Salonen 12m10s, Brookes 12m11s, McRae 12m20s, Mehta 12m34s, Fisher 12m35s, Clark 12m36s, Llewellin 12m37s.

SS 48 : GARTHEINIOG I
Vatanen 12m26s, Mikkola 12m32s, Mouton 12m51s, Eklund 13m02s, Salonen 13m10s, McRae 13m27s, Fisher 13m32s, Mehta 13m39s, Brookes 13m47s, Clark 13m49s.

SS 49 : DYFI II
Mikkola 11m02s, Mouton 11m09s, Salonen 11m28s, Vatanen 11m29s, Eklund 11m32s, Brookes 11m34s, McRae 11m49s, Fisher 11m58s, Lord 12m02s, Clark 12m04s.

SS 50 : GARTHEINIOG II
Mikkola 11m47s, Mouton 11m58s, Brookes 12m15s, Eklund 12m21s, Salonen 12m25s, McRae 12m36s, Vatanen 12m50s, Lord 12m58s, Mehta 13m00s, Clark 13m06s.

SS 51 : BLAFN-Y-GLYN
Vatanen 4m32s, Mikkola 4m36s, Eklund 4m41s, Mouton 4m43s, Brookes 4m57s, Salonen 4m49s, McRae 5m05s, Clark 5m08s, Fisher 5m12s, Mehta 5'14s.

SS 52 : MAWDAACH
Vatanen 2m28s, Mikkola 2m33s, Mouton 2m35s, Eklund 2m38s, Salonen 2m44s, Brookes 2m44s, Clark 2m48s, McRae 2m48s, Fisher 2m49s, Lord 2m50s.

SS 53 : MAESGWM
Vatanen 6m29s, Mikkola 6m43s, Mouton 6m45s, Salonen 7m03s, Eklund 7m04s, Brookes 7m06s, McRae 7m12s, Lord 7m19s, Clark 7m25s, Llewellin 7m26s.

SS 54 : CLOCAENOG I
Vatanen 2m11s, Mikkola 2m12s, Mouton 2m15s, Eklund 2m15s, Salonen 2m22s, McRae 2m23s, Brookes 2m25s, Mehta 2m27s, Johnsson 2m27s, Fisher 2m28s.

SS 55 : CLOCAENOG II
Vatanen 10m38s, Mikkola 10m49s, Mouton 10m57s, Eklund 11m20s, Salonen 11m21s, McRae 11m31s, Brookes 11m36s, Lord 11m55s, Ericsson 12m01s, Mehta 12m06s.

SS 56 : CLOCAENOG III
Vatanen 5m54s, Mikkola 6m01s, Mouton 6m06s, Eklund 6m09s, McRae 6m19s, Salonen 6m21s, Brookes 6m24s, Fisher 6m35s, Al Ajri 6m38s, Mehta 6m39s.

STATISTICS

OVERALL RESULTS

1. Vatanen/Terry Harryman	**Peugeot 205 Turbo 16**	**9 hours 19m 43s (1st Group B)**
2. Hannu Mikkola/Arne Hertz	Audi Quattro	9 hours 20m 29s
3. Per Eklund/Dave Whittock	Toyota Celica	9 hours 37m 07s
4. Michèle Mouton/Fabrizia Pons	Audi Quattro	9 hours 37m 28s
5. Russell Brookes/Mike Broad	Opel Manta 400	9 hours 48m 06s
6. Timo Salonen/Seppo Harjanne	Nissan 240 RS	9 hours 49m 37s
7. Jimmy McRae/Mike Nicholson	Opel Manta 400	10 hours 04m 20s
8. Shekhar Mehta/Yvonne Mehta	Nisan 240 RS	10 hours 07m 01s
9. Bertie Fisher/Austin Frazer	Opel Manta 400	10 hours 14m 19s
10. Mikael Ericsson/Claes Billstam	**Audi 80 Quattro**	**10 hours 15m 03s (1st Group A)**
28. Brian Wigging/Tony Shepherd	**Vauxhall Astra**	**11 hours 35m 23s (1st Group N)**

FOR THE RECORD

Third consecutive victory in the World Rallying Championship for Vatanen/ Harryman in the Peugeot 205 Turbo 16.
Hannu Mikkola has won the RAC Rally four times and finished 2nd four times.
The works Skodas didn't win their category for the first time in twelve years.
The veteran, Roger Clark (45), made his comeback to Rallying.

SUCCESSIVE LEADERS

SS1 - 39: Vatanen.
SS40 - 42: Mikkola.
SS43 - 49: Vatanen.
SS50: Mikkola.
SS51 - 56 (Finish): Vatanen

IMPORTANT FACTS

Rally:
The average length of the special stages was increased to give an average of 15.8 km (9.8 miles) per special stage.
Drivers:
Mikkola's 2nd placing in the world championship was confirmed.
Per Eklund will continue to be the A driver during the 1985 season.
Philippe Wambergue had his maiden-rally at the wheel of a Mazda.
Cars:
Rover made its comeback to the World Rallying Championship by entering a Group A Rover Vitesse.

PAST RESULTS

(Last 10 editions)
1974: Makinen/Liddon (Ford Escort)
1975: Makinen/Liddon (Ford Escort)
1976: Clark/Pegg (Ford Escort)
1977: Waldegaard/Thorszelius (Ford Escort)
1978: Mikkola/Hertz (Ford Escort)
1979: Mikkola/Hertz (Ford Escort)
1980: Toivonen/White (Talbot Lotus)
1981: Mikkola/Hertz (Audi Quattro)
1982: Mikkola/Hertz (Audi Quattro)
1983: Blomqvist/Cederberg (Audi Quattro)

MAIN RETIREMENTS

Pond/Arthur (Rover Vitesse) Off road SS1.
Waldegaard/Thorszelius (Toyota Celica Turbo) Engine SS11.
Wambergue/Vial (Mazda RX7) Wheel pins after SS13.
Jonsson/Johansson (Opel Ascona 400) Accident after SS14.
Andervang/Clintler (Ford Escort) Clutch SS17.
Geitel/Wood (Nissan 240 RS) Gearbox SS18.
Wilson/Harris (Audi Quattro) Engine SS18.
Stromberg/Carlsson (Saab 99 Turbo) Clutch SS33.
Chauche/Barjou (Citroën Visa 1000 Pistes) Engine seizure SS34.
Grundel/Diekmann (VW Golf GTi) Off road SS37.
Kankkunen/Gallagher (Toyota Celica Turbo) Off road SS39.
Eriksson/Spjuth (Opel Kadett GSi) Off road SS39.
Kaby/Gormley (Nissan 240 RS) Missed time control after SS39.
Carlsson/Mellander (Mazda RX7) Off road SS40.
Buffum/Wilson (Audi Quattro) Off road SS40.

TECHNICAL DATA

32nd RAC Rally
November 25th - 29th 1984.
10th and final round of the World Rally Championship for makes.
12th and final round of the World Rally Championship for drivers.
Start and finish at Chester (GB).
Three legs totalling 3,225 km (2,2215 miles) of which 888 km (555 miles) in 56 special stages (all were covered). 43 special stages through forests, 9 mixed and 4 tarmac special stages.
1st leg: Chester - Chester (476 km/297 miles), 7 special stages (36.3 km/22.6 miles).
2nd leg: Chester - Harwick - Middlesborough - Chester (1,505 km/ 940.6 miles), 24 special stages (447 km/279.3 miles).
3rd leg: Chester - Aberafan - Dolgellau -Chester (1,243 km/776.8 miles), 25 special stages (405 km/253 miles).
Entries: 130; **Starters:** 120; **Finishers and Classified:** 52.
Weather: Warm for the season, a few showers.

CONSTRUCTORS' WORLD RALLY CHAMPIONSHIP

Final results after 10 rounds: Monte Carlo, Portugal, Safari, Corsica, Acropolis, New Zealand, Argentina, 1000 Lakes, San Remo and the RAC Rally.

| | | |

Audi Quattro No 3 (DPPI)

HANNU MIKKOLA AND ARNE HERTZ FAILED TO TAKE FIRST PLACE OVERALL FROM VATANEN BY 41s AFTER 2,003 MILES

Toyota Celica Turbo No 8 (DPPI)

PER EKLUND AND DAVE WHITTOCK WERE QUICK TO JUMP IN AND PINCH THIRD PLACE FROM MICHELE MOUTON IN TROUBLE

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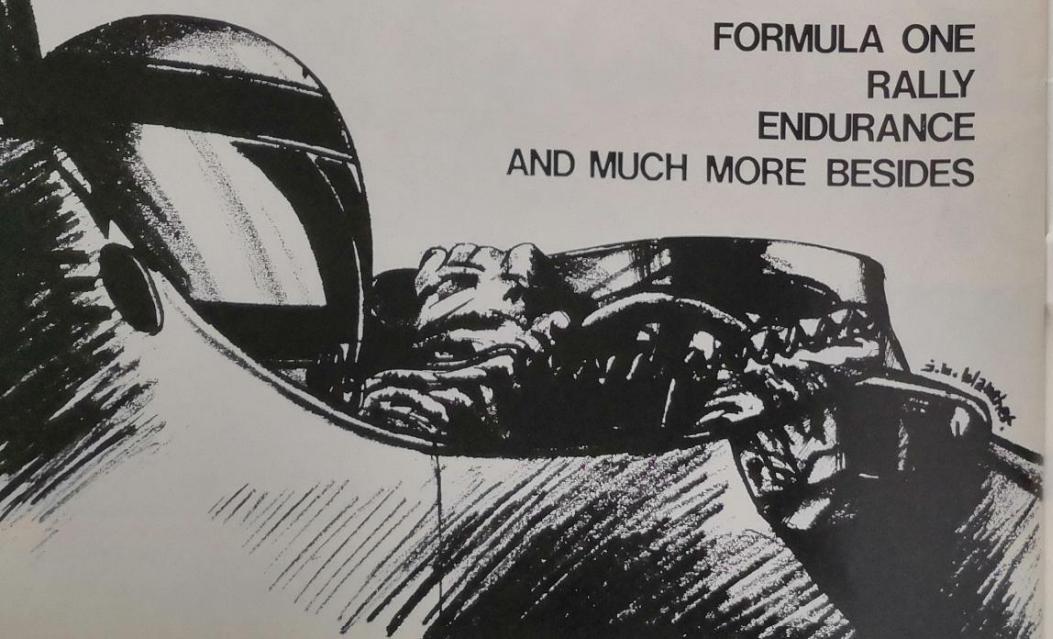

POST BAG

COMPLIMENTS

Dear GPI,
I would like to take this opportunity to say that it's great to see you back. I also enjoyed reading your prestige tests on the Testarossa and the sneak preview on the Alpine Renault. This is definitely a step in the right direction, from my point of view, and I hope that you will continue along these lines.
Michael Ticehurst
Crawley,
Sussex.
RH10 2TQ

Dear Michael,
Well, it's nice to know we've been missed and that you like the new production team's work. We hope that readers will use these columns to vent their views and opinions on a wide variety of subjects.
Hoping to hear from you again soon,
GPI.

FRENCH EDITION?

I was pleased to find Grand Prix International back on my newsagent's shelf. But I've only been able to find it in English. What happened to the French edition? Also, what happened to your proof readers?
Alain Changeur,
Bourg la Reine,
France

Dear Alain,
Yes we are back in English only! Grand Prix International has been bought by the Parisian publishers, GELT, whose management policy dictates that it will only be published in English. As you will have noticed, certain articles have disappeared and we have included others in order to cater for our readers' varied interests.
We would like to take this opportunity to apologise for the printing errors which appeared in our last issue, due to temporary technical problems. We hope and believe we have now overcome our production difficulties.

OBJECTIVITY

Dear GPI,
Is it my imagination, or did everybody let Niki Lauda through at Estoril?
Not much of a season was it?
Great to see you back!
Peter Del Turco,
via giambologna 19,
Florence,
Italy.

Dear Peter,
Sour grapes to you! A points system has been devised for the championship and despite Niki's winning five GPs and Alain seven, he won the championship because he chalked up more points!
And that, chum, is the way the cookie crumbles...
Happy reading,
GPI.

This column belongs to Grand Prix International readers.
Every month we'll be publishing a selection of your letters and comments — both good and bad — and we'll reply to any questions you may have.
So readers, write in at the following address: Grand Prix International, POST BAG, 7, rue de Lille, 75007 Paris, France.

The production editors reserve the right to modify correspondence without notice. We do not necessarily agree with readers' views expressed in these columns.

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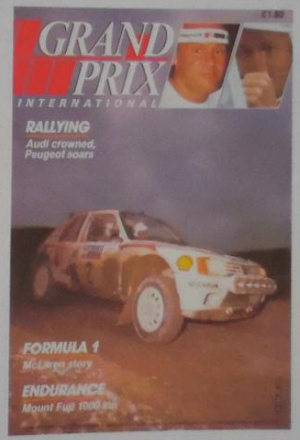

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This is the BBS RS 3-part wheel.

As you can see from the illustration below, it has a split rim, so it weighs considerably less than ordinary alloy wheels. True to form it also runs far, far more precisely. (After all, we build the wheels used by Porsche when they win Le Mans and by BMW on their very high performance 635 CSiM.)

The RS wheel is not only built to the most exacting standards possible, it's also built to BBS standards. So high are these, we insist on making all 32 bolts on the wheel ourselves.

We then drive it more than 1200 miles, carrying two and a half times the normal wheel load.

We simulate cornering 800,000 times at high speed. To gain the much prized but seldom awarded TUV approval from the German government, we need only have done so 200,000 times.

We then spray salt for 300 hours to be sure every wheel will resist corrosion. We even X-ray the centre looking for the minutest flaw. Finally, we give every wheel a two year guarantee.

Not surprisingly, the RS wheel is the only 3-part wheel to achieve TUV approval.

At £200 a rim, it's not only the best road wheel in the world, it's also the most expensive.

If it's any consolation, we spared no expense building it. (This is true of every wheel we build, even our very much less expensive range of standard alloy wheels.) As the distributors below will only too readily tell you.

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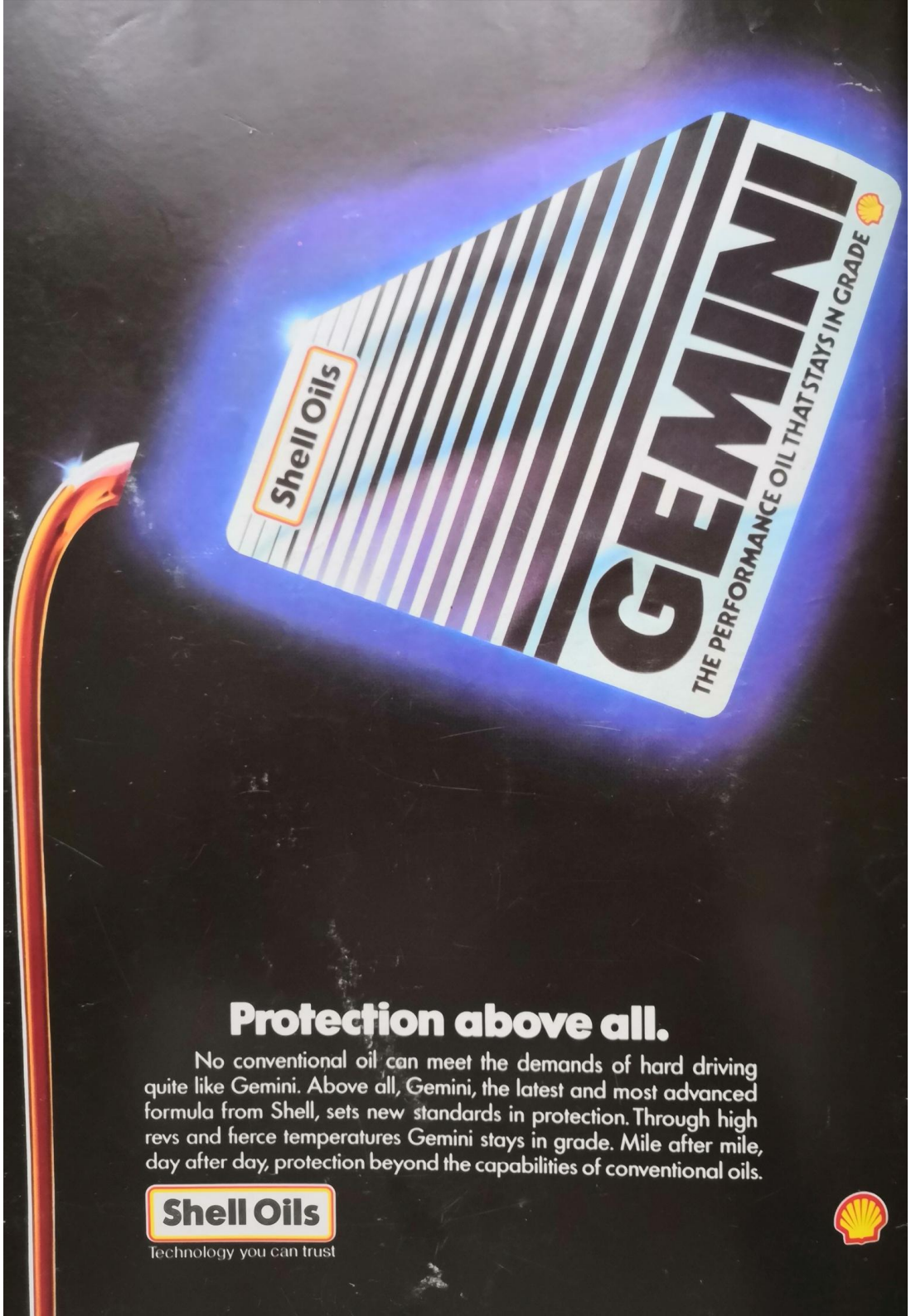
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